

POONA 2

PREFACE

I am happy to bring out this Facsimile Reproduction of Poona District Gazetteer (Second Volume), which was first published in 1885 by the British Government in the series of Gazetteers of the Bombay Presidency. This Volume was edited by Mr. James M. Campbell, I. C. S. This encyclopaedic volume compiled 106 years ago has now become scarce and has gone out of print. The second revised edition of the Poona District Gazetteer was published in a single volume by this department in 1954. However, the utility of the Gazetteers in the Old Series is still undiminished because they contain authentic and very useful information on several aspects of life, and have the impress of profound scholarship and learning. They have not lost their utility due to the mere passage of time. It was, therefore, felt necessary to preserve this treasure of knowledge for posterity. There is also a good demand from scholars that all the Old Gazetteers should be reprinted, even though a revised edition is available. With these considerations in view, it was thought that the Gazetteer Volumes in Old Series should be reprinted. I am sure, scholars and studious persons will find them very useful.

It may be pertinent to state that a totally rewritten Marathi edition of the Pune District Gazetteer is being brought out by us.

I am thankful to the Director, Government Printing and Stationery, Shri P. S. More and the Manager, Government Photozinco Press, Pune, Shri A C. Sayyed and other Staff in the Press for expeditiously completing the work of reprinting.

Bombay,

**15 June
1991.**

DR. K. K. CHAUDHARI

**Executive Editor and
Secretary**

AGRICULTURE.

[Details about Field-tools, Agricultural Processes, and Crops are chiefly taken from Mr. W. Fletcher's Deccan Agriculture.].

HUSBANDMEN.

ACCORDING to the 1881 census, agriculture supports about 500,000 people or 5C per cent of the population. The details are:

POONA AGRICULTURAL POPULATION, 1881.

AGE.	Males.	Females.	Total.
Under Fifteen	103,288	97,174	200,462
Over Fifteen	155,407	156,074	311,481
Total	258,695	253,248	511,943

[From materials supplied by Messrs. J. G. Moore, C. S. and A. Keyser, C. S.] Kunbis and Mali's, though the chief, are by no means the only husbandmen. Men of all classes, Brahmans, Gujar Marwar and Lingayat Vanis, Dhangars, Nhavis, Kolis, Ramoshis, Mhars, Chambhars, and Musalmans own land. About four-fifths of the landholders till with their own hands. The rest rent the land to tenants and add to their rents by the practice of some craft or calling. Kunbis depend almost entirely on the produce of their fields. They work more steadily, and have greater bodily strength than other husbandmen, and they show high skill both in dry-crop tillage and in cultivating the watered lands in which cereals are grown. At the same time, especially at a distance from trade centres, they are slow to adopt improvements, and, especially in the east, are not careful to keep their fields clear of weeds. Malis or gardeners cultivate a large area of garden and watered land. Some of them depend entirely on the produce of their fields, and manage their garden lands with great care and skill. Though, like Kunbis, Malis are slow to change their modes of tillage, they are ready to grow any new crop that seems likely to pay. They are most skilful in mixing and varying crops, and are the most regular and thorough ploughers and the cleanest weeders in the district. Where there is a constant drain on the land they are careful to use every available particle of manure and in the neighbourhood of

Poona have completely overcome their dislike to the use of poudrette. Malis are of four kinds, Phul or flower Malis, Haldya or turmeric Malis, Lingayat or *ling*-wearing Malis generally of southern or Karnatak origin, and Jire or cumin-seed Malis. Brahmans generally have their lands tilled by hired labour, themselves superintending and directing the workmen, but, in parts of Khed, and occasionally elsewhere in the west, Brahmans have for generations worked their fields without the help of hired labour. Vanis are perhaps the only class who never till with their own hands. They let their lands to tenants who pay them either in money or in kind. A large section of the landholders are Dhangars or shepherds by caste. Most Dhangars, besides tilling their lands, rear sheep and weave blankets, but some have given up rearing sheep and live entirely on the produce of their lands. Except the Haldya or turmeric Malis, no husbandmen grow only one crop.

The uncertain rainfall over a great part of the district, the poverty of much of the soil, the want of variety in the crops grown, and a carelessness in their dealings with moneylenders, have, since the beginning of British rule, combined to keep the bulk of the Poona landholders poor and in debt. Between 1863 and 1868 they suffered from the introduction of revised rates of assessment based on very high produce prices which were wrongly believed to have risen to a permanent level. To their loss from the fall in produce prices was added the suffering and ruin of the 1870-77 famine. In spite of these recent causes of depression, the records of former years seem to show that except during the ten years of unusual prosperity ending about 1870, when great public works and the very high price of cotton and other field produce threw much wealth into the district, the mass of the land holding classes, though poor and largely in debt, are probably at present less harassed, and better fed, better clothed, and better housed than they have been at any time since the beginning of the present century. In the west, where famines are unknown and scarcity is unusual, the husbandmen are fairly off. But in Indapur and Bhimthadi and in parts of Sirur and Purandhar they have not recovered the distress and indebtedness caused by the 1876-77 famine. In 1876-77, a large area of land was thrown out of tillage and the low price of grain during the two years ending 1882-83 has made it difficult for the landholders to recover what they lost in the year of distress. [In Indapur *jvari*, sold at seventy-six pounds in 1881-82 and at sixty-two pounds in 1882-83. The corresponding average price during the twenty years before 1881-82 was thirty-seven pounds.] At the same time the Mutha canals and other water-works, by introducing a variety of crops and fostering more careful tillage, have done much to enrich the landholders. As a class the landholders are hardworking,

frugal, and orderly. But, except near Poona, whose market quickens their energies, they are slower and less intelligent than the landholders of most other parts of the Presidency. Their tillage is careless, at times even slovenly, and they fail to strengthen the land by deep ploughing, by change of crops, or by the sufficient use of manure. This is due to poverty forcing them to take all they can from the land, rather than to laziness or to ignorance of the value of suitable ploughing, of plentiful manure, of clean weeding, of fallows, and of changes of crops. Their greatest want, and this with the spread of irrigation is more and more felt, is manure. As there are almost no leaf-yielding forests, as grass is scarce, and as most of the straw-giving crops are millets whose stalks are valuable fodder, there is a great scarcity of stable-litter, and from the want of other fuel most at the cowdung is lost to the land. In 1837 Colonel Sykes thought the mixing of several grains and pulses in one field was one of the chief blemishes in the Poona tillage. [Report British Association (1837), 324.] More recent writers, including among them the revenue and survey officers of the district, do not share Colonel Sykes' opinion. Over most of the district the chief danger against which the husbandman has to guard is a failure of rain. Millet may perish in a year in which the hardier and less thirsty pulse will thrive or at worst will yield a fair crop. If the millet succeeds it smothers the pulse and takes no harm. The mixing of crops has also the advantage of lessening the drain on the land by taking different elements out of it.

SEASONS.

In Poona all arable land comes under one or other of three great heads, *jirayat* or dry-crop land, *bagayat* or watered land, and *dean* or rice land. Dry-crop lands are divided into *kharif* or early and *rabi* or late. The early crops are brought to maturity by the rains of the southwest monsoon; the late crops depend on dews, on watering, and on the partial fair-weather showers which occasionally fall between November and March. Early or *kharif* crops are sown in June and July and are reaped in September and October or November. In the Maval or wet and hilly west, whose staple is rice and whose other crops are the coarse or *varkas* grains *vari*, *sava*, *nachni*, and *khurasm* the chief harvest is the early harvest. The exposure to the cold damp of the south-west rains severely tries the husbandmen of the west. But they are a hardy cheerful race and their labour is seldom made useless by a failure of crops or unprofitable from the want of a market.

In the Desh or eastern plain, where the south-west rain is light and uncertain, the early or *kharif* harvest is less important than in the

west. The chief early crops are spiked millet or *bajri* mixed with the hardy *tur* and early Indian millet or *jeari*. These are sown in late May or in June on the first sufficient rainfall. In good years they ripen in late September and October; in bad years not till November. When the early crops are reaped in September and where the land permits, a second or *dnsota* crop is raised. As, after October, rain rarely falls in the hilly west, except a little wheat grown on the eastern fringe, the late or *rabi* dry-crop harvest is of comparatively little importance. In the east of the district which is within the range of the north-east rains, the late or *rabi* harvest is more important than the early harvest. There the late crops are sown in October and November and ripen in February and March. They are chiefly *shalu* and other cold-weather Indian millets and gram, lentils, and other pulses.

SOILS.

[Mr. A. Keyser, C. S., and Captain H. Robertson (1821) in East India Papers, V. 565, 566.] The soil of the district is lighter in the west than in the east. It belongs to three classes, black or *kali*, red or *tambdi*, and coarse gray or *barad*. In some places each class of soil blends with the other in varying proportions and in turn is modified by sand, gravel, lime-salts, and other ingredients. The *kali* soil is generally black or nearly black, and has sometimes a gray or a bluish tinge. It is commonly found in layers several feet deep. It belongs to the plain east rather than to the hilly west, and covers wide areas near rivers and large streams. In such places it is of great and uniform depth. It is sometimes injured by being mixed with lime nodules ; and, occasionally, from the action of water or the presence of mineral salts, it becomes stiff and clayey, which, except in years of heavy rainfall, much lessens its richness. Excellent black soil of small and varying depth, with its surface covered with black basalt stones, is found on tablelands. Black soils are richer than either red or coarse gray soils. The sun does not harden their surface but cracks and crumbles it, and as they keep their moisture longer than other soils they are the favourite land for late or *rabi* crops. They yield all the produce of the Deccan in abundance and are specially suited for the growth of wheat, gram, and sugarcane. Towards the west as the level rises the black soil shallows till in the waving slopes that skirt the hills it changes to red or gray. The black soil is of two kinds, the gaping black soil known as *dombi* and *kevaldhas* and the stony black called *khadkal* or *dhondal*. Though better than the stony black the gaping black soil is very thirsty and requires plentiful and constant watering to bring out its powers and keep them in action. If it is not continually drenched while the crop is growing the people say that the crops pine and wither. The

stones in the stony black are said to make it firmer and better able to hold water. This is the most valued land for the ordinary dry-crops whose supply of water depends on the local rainfall. This stony black is not so strong and as a rule is shallower than the gaping black. Being lighter the gaping black is more easily worked, but has to be ploughed oftener than the stony black and wants more manure. The best black soil yields year after year apparently without suffering though its powers might have become exhausted if it were not for the relief given by sowing a mixed crop. Other and poorer black soils occur mixed with sand and clay. The reddish or copper-coloured soils called *tambat* or *tambdi* are always shallower and coarser than the black. They are probably the ruins of the iron-bearing rocks without the decayed vegetable element which deepens the colour of the black soils. They are often injured by a mixture of gravel, but when watered by frequent showers are generally well suited for the *kharif* or early crops. The red soil is commoner and richer in the west than in the east. It has many varieties, for it includes lands on the skirts of hills and other most barren soils. Red soil is generally rough and stiff and requires deep ploughing. The best red soils are found near Pabal, midway between Khed and Sirur, where also the ploughing is *very deep*. The red soil of Pabal itself is very powerful, but requires great labour. It is a mixture of sand with a smaller quantity of clay. There are three varieties of red soil, pure red or *nirmal tambdi*, upland or *mal jamin*, and sandy or *valsari jamin*. The pure red or *nirmal tambdi* is lighter and richer than the others and has perhaps a larger proportion of sand. The upland or *mal jamin* is a reddish soil thin-spread over rock. According to its depth and the quantity of sand and friable stones it is of two varieties *mal murud* that is plain red land and *tambdi malsi* that is hill red land. Sandy or *valsari jamin* when deep enough yields fair crops. Higher up the slopes or covering the tops of the lower uplands of the eastern plain is the coarse gray or *barad*. It varies in colour from a light reddish brown to gray, is of a coarse gravelly or loose friable texture, and is greatly wanting in cohesion. It is decomposed basalt with a mixture of iron ore. It does not yield wheat, peas, or any late or cold-weather crops; but in seasons of heavy rainfall spiked millet and the early pulses give a good return. When waste it bears nothing but scanty spear-grass. It does not occur in the hilly west. *Gavkhar pandhari* or white village soil is much like the coarse gray in colour, but is finer and is often of great depth. It is only found close to villages or on deserted village sites. Its special appearance is probably due to the manure which gathers on village sites and gives the soil a chalky character. It is a clean light soil and on a basis of black mould yields excellent crops, especially of tobacco. There are also patches of stiff clayey soil called *shedvat* that is white clayey or *chopan* that is clayey

or loamy and of *chikni* or pure clay in which nothing grows. Clayey patches, black brown or white in colour, are generally found on the banks of rivers. A rare swampy or undrained soil of a clayey texture is termed *shembat* that is stony and *upal* that is sodden. A rich alluvial soil called *dheli* or *kevtal* that is soil left by the overflowing of rivers, ranges in colour from pale yellow to dark brown. It covers a limited area, but, partly from the vegetable matter it holds and partly because it is regularly strengthened by fresh deposits, it is the richest soil in the district. Near some of the larger rivers within flood limits is a narrow belt of land of no great value known as *malai* or vegetable land. In the hilly west is a barren blackish soil called *murmud* that is crumbly rock. It is very stiff and hard and is found mostly at the foots of hills wherever water lodges. Here and there in black and other rich soils spots yield wretched crops compared with the surrounding fields. These spots are called *chunghadi* or lime-laden because limestone is always found near the surface.

ARABLE LAND.

Of an area of 5347 square miles 5198 square miles or 3,327,283 acres or 97.21 per cent have been surveyed in detail. Of these 467,884 acres or 14.06 per cent are the lands of alienated villages. The rest contains, according to the revenue survey, 2,113,221 acres or 63.51 per cent of arable land; 272,271 acres or 8.18 per cent of unarable; 21,107 acres or 0.63 per cent of grass or *kuran*; 263,797 acres or 7.92 per cent of forest; and 189,003 acres or 5.68 per cent of village sites, roads, and river beds. [The forest area has lately been increased to 422,400 acres or 661 square miles.] In 1881-82 of the 2,113,221 acres of arable land in Government villages, of which 193,224 or 9.14 per cent are alienated, 1,786,065 acres or 84.51 per cent were held for tillage. Of this 44,503 or 2.50 per cent were garden land, 27,674 acres or 1.54 per cent were rice land, and 1,713,888 acres or 95.96 per cent were dry-crop land.

HOLDINGS.

Though large holdings are found in many villages the holdings as a rule are small. They are also so divided among members of different families that the entries in the Government books are not a complete guide to the average size of a holding. In the hilly west, where the chief grains are rice, *nagli*, and other coarse grains, which require great attention and labour, the holdings are generally smaller than in the east. In 1882-83, including alienated lands, the total number of holdings was 227,871 with an average area of about nine acres. Of the

whole number, 86,193 were holdings of not more than five acres; 43,898 were of six to ten acres; 45,359 of eleven to twenty acres; 30,677 of twenty-one to fifty acres; 11,340 of thirty-one to forty acres; 7575 of forty-one to fifty acres; 2739 of fifty-one to one hundred acres; seventy-six of 101 to 200 acres; thirteen of 201 to 300 acres; and one above 300 acres. More than 100 acres of dry-crop land is considered a largo holding, fifty to 100 acres is considered a middle-sized holding, and less than twenty-five acres is considered a small holding:

POONA HOLDINGS, 1882-83.

SUB-DIVISION	1-5 Acres.	6-10 Acres.	11-20 Acres.	21-30 Acres.	31- 40 Acres.	4-50 Acres.
Junnar	21,048	5004	4152	1594	453	191
Khed	27,524	8315	6829	2052	544	139
Maval	8373	6917	4929	4127	3414	5151
Haveli	14,435	13,925	11,829	9916	1125	105
Sirur	6022	3726	4832	2150	783	119
Purandhar	3458	2695	3548	2428	621	206
Bhimthadi	3943	2645	7489	6443	2524	760
Indapur	1390	671	1451	1967	1670	901
Total	80,193	43,898	45,359	30,677	11,340	7575

SUB-DIVISION	51-100 Acres.	101-200 Acres.	201-300 Acres.	Over 300 Acres.	Total.	Land Revenue	Total Area.
Junnar	180	20	2	--	32,844	£ 14,747	Acres. 221,761
Khed	64	6	1	--	45,474	15,981	283,824
Maval	1092	2	2	--	34,010	7631	126,037
Haveli	95	--	--	--	61,460	18,822	261,285

Sirur	77	6	4	--	17,719	13,824	236,212
Purandhar	119	21	3	--	13,399	9798	166,216
Bhimthadi	378	21	1	1	14,205	23,454	451,197
Indapur	734	--	--	--	8790	10,645	220,746
Total	2739	76	13	1	227,871	114,902	1,967,278

STOCK.

As in other famine districts farm stock considerably decreased in 1876-77, and has not yet reached its former level. In 1875-76, the year before the famine, the stock included 21,857 carts, 63,629 ploughs, 233,759 bullocks, 160,097 cows, 12,107 he-buffaloes, 45,765 she-buffaloes, 12,790 horses including mares and foals, 4932 asses, and 342,081 sheep and goats. [Horses and asses, though almost never used for field purposes, are usually classed with agricultural stock.]. According to the 1882-83 returns the farm stock included 21,044 carts, 52,630 ploughs, 227,619 bullocks, 144,949 cows, 12,084 he-buffaloes, 40,646 she-buffaloes, 11,163 horses including mares and foals, 6745 asses, and 289,688 sheep and goats. The details are:

POONA AGRICULTURAL STOCK, 1882-83.

SUB-DIVISION.	CARTS.		PLOUGHS.		BULL OCKS.	COWS.	BUFFALOES.			SHEEP AND GOATS.	ASSES.
	Riding.	Draught.	With two Bull-ocks	With four Bull-ocks.			Males	Females	HORSES, MARES, AND FOALS.		
Junnar	543	1529	4288	3948	27,481	16,944	2731	6320	906	40,870	856
Khed	383	3224	7436	4849	44,176	31,664	1946	10,858	1252	19,409	783
Maval	22	2005	6213	813	16,523	12,370	2810	4175	293	1927	64
Haveli	962	5110	4508	4359	34,046	25,229	1556	8763	2176	21,169	2140
Sirur	472	1512	1432	4080	27,296	18,255	517	2183	1484	38,107	736
Purandhar	257	1093	1540	3017	23,987	13,883	597	3540	1252	31,267	589
Bhimthadi	59	2575	525	3434	36,596	18,518	866	2712	2547	83,786	1015

Indapur	25	1213	780	1508	17,514	8086	1061	2095	1253	53,153	562
	2723	18,321	26,722	25,908	227,619	144,949	12,084	40,646	11,163	289,688	6745

PLOUGH OF LAND.

With four oxen a Kunbi will till some sixty acres of light soil. Sixty acres of shallowish black soil require six or eight oxen. Eight oxen can till some fifty acres of deep black soil, provided that in occasional years when ploughing is necessary the landholder is able to hire two more pairs of bullocks. With eight pairs of oxen, and the power where necessary of making use of two pairs more, an acre or two of the sixty might be kept under the lighter garden crops, Many husbandmen have much less than the proper number of cattle, and have to join with their neighbours before their fields can be ploughed.

CROPS.

In 1881-82, of 1,786,065 acres, the whole area held for tillage, 209,447 acres or 11.72 per cent were fallow or under grass. Of the remaining 1,576,618 acres, 18,740 were twice cropped. Of the 1,595,358 acres under tillage, grain crops occupied 1,374,702 acres or 86.16 per cent, of which 588,502 were under Indian millet, *jvari*, *Sorghum vulgare*; 557,807 under spiked millet, *bajri*, *Penicillaria spicata*; 60,524 under wheat, *gahu*, *Triticum aestivum*; 52,365 under *ragi* or *nachni*, *Eleusine corocana*; 47,885 under rice, *bhat*, *Oryza saliva*; 32,342 under *sava* and *vari*, *Panicum miliaceum* and *miliare*; 3844 under maize, *makka*, *Zea mays*; 1084 under *rala* or *kang*, *Panicum italicum*; 397 under *kodra* or *harik*, *Paspalum frumentaceum*; 141 under barley, *jav*, *Hordeum hexastichon*; and 29,811 under other grains of which details are not given. Pulses occupied 85,919 acres or 5.38 per cent, of which 28,879 were under gram, *harbhara*, *Cicer arietium*; 13,065 under *kulith* or *kulthi*, *Dolichos binorus*; 12,851 under *tur*, *Cajanus indicus*; 3900 under *mug*, *Phaseolus mungo*; 1519 under *udid*, *Phaseolus radiatus*; 836 under peas, *vatana*, *Pisum sativum*; 836 under *masur*, *Ervum lens*; and 24,033 under other pulses. Oilseeds occupied 102,786 acres or 6.44 per cent, of which 29,449 were under gingelly seed, *til*, *Sesamum indicum*; 159 under linseed, *alshi*, *Linum usitatissimum* and 73,178 under other oilseeds. Fibres occupied 8382 acres or 0.52 per cent, of which 4565 were under cotton, *kap*, *Gossypium herbaceum* 1375 under Bombay hemp, *san* or *tag*, *Crotalaria juncea*; 18 under brown hemp, *ambadi*, *Hibiscus cannabinus*; and 2424 under other fibres. Miscellaneous crops occupied 23,569 acres or 1.47 per cent of which 8089 were under

chillies, *mirchi*, *Capsicum frutescens*; 5502 under sugarcane, *us*, *Saccharum officinarum*; 817 under tobacco, *tambakhu*, *Nicotiana tabacum*; and the remaining 9161 under various vegetables and fruits.

FIELD TOOLS.

The field tools are, the plough, *nangar*; the seed-drills, *pabhar* and *moghad*; the hoes, *kulav*, *kulpe* or *joli*, and *pharat*; the beam-harrow, *maind*; the dredge or scoop, *petari*; and the cart, *gada*.

Plough.

The plough, *nangar* or when small *nangri*, is usually of *babhul* *Acacia arabica* wood. It contains live distinct meces, the pole *halas*, the share or coulter *nangar*, the yoke *ju* or *shilvat*, the tail *rumane*, and the handle *muthya*. These five parts are kept together by a leather rope, *vethan*, which passes back from the yoke behind the plough tail, and forward again to the yoke. To the share a moveable iron shoe or *phal* is fixed by a ring called *vasu*. A large plough for stiff soil which works nine inches deep requires seven to ten yoke of oxen. In the light eastern Desh soils the plough requires only two yoke. In the west, where it is fit only for stirring flooded rice land and for breaking the surface after it has been softened by rain, the plough is light enough to be carried on a man's shoulder and one yoke of oxen are enough to draw it. The large plough is an efficient implement passing under the hard crust, turning the soil in great lamps, and exposing a large surface to the weather. It can be made to cut a deep or a shallow furrow by changing the angle of the share or coulter. The Kunbis manage the plough with considerable skill. One man can work a plough with two yoke of oxen turning them at the end of the furrow by voice alone. With a team of six or seven pair a boy is usually seated on the yoke of the third pair and hustles them along with whip and voice. Each ox knows his name and obeys the boy's voice. The furrows are never straight and the field is usually ploughed crosswise as well as lengthwise. In the plain east, the plough is often left in the field when not in use, the iron shoe the ropes and the yokes being taken home. In the east, a plough with four separate yokes varies in value from 16s. to £1 (Rs. 8-10). With yearly repairs costing about 3s. (Rs. 1 ½), a plough lasts for five years. In the west a complete plough costs 4s. to 5s. (Rs. 2-2½). [Mr. Shearer, the agricultural instructor in the Poona College of Science, has found that, by using an iron share instead of the heavy wood block, the native plough becomes an excellent subsoiler, passing through the most caked and hardened surface, and cutting the roots of bushes which had formerly to be dug

out by the hatchet. These adapted ploughs have been made at the workshops of the College of Science at a cost of £1 5s. (Rs. 12 ½). They have also been successfully copied by village blacksmiths. Mr. Shearer to Collector of Poona, 105, 14th July 1882.]

Seed-Drill.

The seed-drill, *pabhar*, is a model of simplicity and ingenuity and is cheap and effective. It consists of two to four wooden iron-shod shares or coulter called *phans*, fed with seed through bamboo tubes from a wooden bowl or *chade* into which the seed is dropped by hand. The whole is held together by ropes strained in different directions. It is drawn by two oxen. Gram and wheat are sown by a larger drill called *moghad* drawn by four oxen. Its tubes are larger and the shares or coulter stronger so as to pass deeper into the soil. It sows four to six inches deep to suit some of the cold-weather crops. Both the small and the large seed-drill are often used as harrows by removing the middle shares, the bamboo tubes, and the bowl. A drill costs about 5s. (Rs. 2 ½) and with care lasts four or five years.

Hoe.

The hoe, *kulav*, is used for breaking the clods thrown up by the plough, for loosening the surface when the plough is not used, for removing weeds, for filling cracks or fissures, and for covering the seed. The hoe is two shares or coulter joined by a level cross iron blade or *phas* set obliquely in a wooden beam. A pole unites it to the yoke and it is guided by an upright handle. When he wishes to work the hoe deep the driver stands on the wooden beam or lays heavy stones upon it. It requires only one yoke of oxen, costs about 7s. (Rs. 3½), and lasts four or five years. The *kulpe* also called the *join*, is a weeding hoe. It is two iron blades or *golis* like a mason's square with their inward ends six inches apart set in a piece of wood to which the yoke is joined by a pole and ropes. It has two handles the *rumane* and the *veski*, the *veski* being a loose forked stick which is held on the top. It is drawn by two oxen and is driven so that the row of young plants passes through the space between the blades. The *kulpe* is often worked double, that is two *kulpes* are drawn by one pair of oxen. It requires much care in working, costs about 4½s. (Rs. 9), and lasts five years. The *pharat* is like the *kulav*, only its blade is longer, three feet six inches in length, and its woodwork is lighter. It is used to follow the seed-drill and cover the seed and is drawn by two oxen. It costs about 4s. (Rs. 2).

Beam-Harrow.

The beam-harrow, *maind* or *phala*, is a large beam of wood fitted with a yoke and upright handle. It requires four oxen and two men to work it. It is used chiefly in high tillage to break clods and level the surface. It is also used after the wheat and gram are in the ground to press the soil, as pressed soil keeps its moisture longer than loose soil. It costs about 8s. (Rs. 4) and lasts many years.

Scoop.

The scoop or dredge, *petari*, is used only in rice lands. The bottom lip is formed by a plank three feet long to which the oxen are harnessed. A stout handle fixed into the middle of the plank sloping back forms a support to a series of bamboo slips laced together with string which rise one above the other about two feet six inches, presenting a curved sloping surface against which as the scoop passes through the ground the loose earth gathers. It is drawn by two oxen and costs about 3s. (Rs. 1 ½).

Cart.

Up till 1836 the carts or *gadas*, of which there were very few, were cumbrous vehicles consisting of a large strong frame of wood supported on two solid wooden wheels over which the sides projected on props that rested on the axle outside of the wheels. The naves of the wheels were fitted inside with iron tubes in which the axles worked. These and the wheel tires were the only iron-work as the whole construction was held together by tightly strained ropes. The cart was used to carry crops, and with the addition of a large shallow basket to carry manure. It cost about £10 (Rs. 100) and was usually the joint property of three or four landholders. The axles being wooden often broke and new wheels and tires were needed at long intervals. With these repairs the cart lasted from generation to generation. Colonel Sykes mentions a cart called *jang* or *jungia* used for carrying manure. It was a common cart with a basket of *nirgundi*, *Vitex trifolia*, and *tur*, *Cajanus indicus*, stems tied to the top of it. In 1836 Lieutenant Gaisford, of the Revenue Survey, planned a new cart with high light wheels and a light body. The new carts were first made at Tembhuni in Sholapur and the craftsmen of the villages round were trained to repair them. At first very few landholders would buy the new carts. Afterwards the opening of roads which did away with the necessity of very heavy and massive carts, and the abolition of transit duties which made it possible to carry local produce to distant

markets, increased the number of carts in Indapur from 291 in 1835-36 to 1165 or 300 per cent in 1865-66, in Bhimthadi from 273 in 1840-41 to 1011 or 270 per cent in 1870-71, in Pabal from 754 in 1840-41 to 1304 or 78 per cent in 1870-71, in Haveli from 1146 in 1840-41 to 2284 or 99.30 per cent in 1871-72, and in Purandhar from 191 in 1843 to 578 or 202 per cent in 1873. In spite of the opening of the railway, which greatly reduced the number of carts employed in long journeys, the latest returns show a total of 18,321 carts throughout the district. The present carts cost £6 to £8 (Rs. 60-80) and hold ten to twenty hundredweights (16-30 *mans*). They are drawn by one pair of bullocks, and are chiefly made of *babhul* and teak wood by local carpenters.

HAND TOOLS.

Besides the tools worked with the help of bullocks there are five hand tools: the pick, *kudal*, costing 1s. (8 *as.*) ; the hoe, *khore*, costing 1s. to 1½s. (8-12 *s.*); the sickle, *khurpe*, used for weeding and grass-cutting, costing 3d. to 6d. (2-4 *as.*); the billhook, *koyata*, used only in the west and carried behind the back in a wooden socket, costing 1s. to 2s. (Re. ½-1); and the rake, *dantale*, made of wood with four or five broad teeth, used to gather chaff in the thrashing floor and in the west to gather grass and tree loppings to burn on the rice fields. These tools can all be easily bought in any village, and every Kunbi owns a fairly complete set worth about £2 (Rs. 20). A yearly charge of 6s. to 8s. (Rs. 3-4) keeps them in good order. If fresh tools are wanted the Kunbi, if necessary, buys a tree, fells it, strips it, and hales it to the village. The carpenter fashions the tools, and the iron-work is bought from wandering blacksmiths. The ropes are made either by the Kunbi himself or by the village Mang from fibre grown in the Kunbi's field. [Bombay Government Selections.. C L I, 33 -34.]

PLOUGHING.

A field is not ploughed every year. In dry-crop lands thorough ploughing is rare. The usual practice both in the west and in the east is to plough the shallower black and light soils every other year, on the alternate years going over the land only with the hoe or *kulav*. Many deep heavy soils are ploughed not of teuer than once in four or five years. In the in terval the he or perhaps the harrow is used. Early or *kharif* land is ploughed in December, January, and February, and the hoe is used to break the surface immediately before sowing. As the soil is lighter, the heavy eastern plough with six or eight pairs of bullocks is not required in the west. A lighter plough with one or two

pairs of bullocks is enough in the western plains, and on the steep hill-sides where a plough cannot work the shallow soil is loosened by the hand with a bent piece of wood tipped with iron.

SOWING.

The Kunbi is very careful in his choice of seed.. If his own crop is good he picks the largest and best-filled heads and keeps their grains separate as seed for the next year. The produce of special heads is often sold as seed and fetches half as much again as ordinary grain of the same kind. Vanis also keep good seed grain in stock which they advance to Kunbis, exacting fifty or a hundred per cent more in kind at harvest time. The sowing of the early or *kharif* crops begins in May or in June after the soil is well moistened by rain. In the plain country the seed is sown by the drill and covered by the long-bladed hoe or *pharat* which follows close behind the drill. When a mixed crop is to be sown one of the drill tubes is stopped and a man follows the drill, holding a horn-tipped tube fastened by a rope from which he sows seed in the furrow left by the stopped tube. This process is called *moghane*. In the west for the early or *kharif* crops a small plot is chosen, and, in March or April is covered a foot or so deep with cowdung, grass, leaves, and branches, which are burnt. In this plot, after a good fall of rain in May or June, the surface is loosened by an iron-tipped wooden hoe and the seed is sown broadcast and thick. In the course of a month when the thick-sown seedlings are about a foot high they are planted in irregular rows in patches of prepared land.

MANURE.

The people understand the value of manure, but litter and cowdung are scarce and mineral and other rich manures are too dear to be used in the growth of the ordinary crops. In the plain part of the district east of Pabal, where the rainfall is scanty or uncertain, dry-crop land is seldom manured. This is partly because manure is scarce and partly it is said because if the rainfall is scanty, manure does more harm than good to the crop. In the hilly west and in the western fringe of plain land where the rain is regular and plentiful, manure is carefully hoarded and used whenever possible. The quantity used seems to be regulated entirely by the supply. Even here manure is scarce and weak, merely wood-ashes and sweepings. In the case of watered crops, hemp or *tag* *Crotalaria juncea*, *methi* *Trigonella foenum-graecum*, or *khurasni* *Verbesina sativa* are sown and when about five inches high are ploughed and the land is flooded and left for twenty days. Malis or gardeners and all others who raise crops all the year

round are very careful to save every available particle of manure. In the land about Poona, which is watered all the year round, poudrette, the dung of cattle sheep and goats, stable litter, and refuse are used. The use of poudrette as a rule is restricted to a range of ten miles to the east of Poona along the line of the Mutha canals. Formerly there was a strong feeling against the import into a village of outside manure. This feeling has passed away, and manure is eagerly sought and frequently brought from long distances. The sewage of the cantonment and city of Poona, after being buried for three or four months, is bought by the husbandmen of the surrounding villages, and it has become a recognized and allowed practice for Kunbis to cart and handle this manure, which not many years ago they held in horror. The manure is sold in the trench at about three carts or one ton for 2s. (Re. 1). In 1874-75, the year when the right bank Mutha canal was opened, the quantity of poudrette turned out by the Poona municipality was 2220 cubic yards and the value realised was £76 12s. (Rs. 766); in 1881-82 the quantity turned out was 11,760 cubic yards and its value £3077 12s. (Rs. 30,776). Cowdung is used only by those who have stall-fed cattle or who are rich enough to buy it. As cowdung cakes are the fuel of Poona most of the cowdung within twenty miles of the city is carefully stored, made into cakes, and sent in large cartloads to Poona where it is also used for burning the dead. [Not even cowdung cakes escape adulteration. There are two kinds of cowdung cakes the *kanshen* or pure cake and the *valshen* or mixed cake half earth and half cowdung. Mr. J. G. Moore, C. S.] In dry land and in watered lands in outlying towns and villages, cowdung, goat and sheep dung, stable-litter, and village refuse are the chief manures. The dung and urine of sheep are a valuable manure and owners of flocks are hired to graze their sheep in fields for two or three nights at a time. Dhangars usually wander from village to village in a regular yearly circuit, in the plains during the rains and cold weather, and in the west during the hot months. They are paid by the husbandmen to fold their sheep in their fields. In some places they get only their food, in other places where gardens abound as much as 1s. or 2s. (Re. ½-1) is paid for one night of a hundred sheep. No chemical or imported manures are used, but the district officials are making experiments with bone-dust.

IRRIGATION

Watered land is of two classes, *motasthal* or bag-watered, and *patasthal* or channel-watered. Well or bag irrigation is of great importance in Indapur and other drought-stricken parts of the east.

Motasthal.

Wells used for irrigation are circular, eight to ten feet across and twenty to fifty feet deep. They are sometimes pitched with brick or stone and mortar, more usually they are lined with dry cut-stone, and frequently they are built only on the side on which the bag is worked. An unpitched well costs £10 to £20 (Rs. 100 - 200), a well lined with dry stone £25 to £50 (Rs. 250-500), and with brick or stone and mortar £40 to £200 (Rs. 400 - 2000). The water is raised in a leather-bag or *mot*, one half of which is two feet broad and is stretched open at the mouth by an iron ring, the other end is much narrower and is not stretched. A thick rope is fixed to the centre of two stout bars, which, at right angles to each other, cross the broad mouth of the bucket, and is passed over a small wheel some four feet above the lip of the water-trough or *tharole* where it is supported by a rough wooden frame. A second thinner rope is fastened to the small mouth of the bucket and passed over a roller which works on the lip of the trough. Both these ropes are fastened to a yoke drawn by oxen. The length of the ropes is so adjusted that the narrow half of the bucket doubles along the broad half and in passing up or down the well the two mouths are brought on a level with each other. When the full bucket reaches the top of the well the narrow mouth follows its own rope over the roller into the trough and allows the water to escape while the broad mouth is drawn up by its rope to the wheel four feet higher. The water-bag or *mot* is of two sizes, one measuring about ten feet from mouth to mouth and worked in deep wells and by four oxen, the other five to six feet and worked in small wells and by two oxen. The bag and its appliances cost about £1 10s. (Rs. 15). [The details are: The leather part 16s. to £1 (Rs. 8 -10), the iron ring 2s. to 3s. (Rs. 1 -1½), the upper or thick rope 1s. 6d. to 2s. (Re. ¾-1), the lower rope about 6d.(4 as.), the wheel including its iron axle 1s. 6d. (12 as.), the roller from 9d. to 1s. (6-8as.), and the rough wood frame 2s. (Re. 1).] The bucket lasts ten or twelve months and the wooden work and the ring four or five years. The thicker rope lasts a year and the thinner rope six months. A six feet long bag on an average raises 57 gallons and 3 quarts of water each time it is emptied. In this way a man and a pair of bullocks raise 2931 gallons of water in an hour or 20,517 gallons in a working day of seven hours. The same man with two buckets and two pairs of bullocks raises 41,034 gallons of water which at eight pounds to the gallon is equal to 328,272 pounds Troy.

In 1882-83, of 18,651 wells about 3203 were step-wells and 15,448 dip-wells. [Of these 3105 were used in 1881-82 for drinking and washing, and 15,423 for watering the land.] A well generally waters

one to thirteen acres and the depth varies from twenty feet in Haveli and Sirur to fifty feet in Junnar and Bhimthadi. The cost of building varies from £30 to £500 (Rs. 300 - 5000) in the case of a step-well, and from £10 to £200 (Rs. 100 - 2000) in the case of a dip-well. There were also 888 ponds or reservoirs:

POONA WELLS AND PONDS, 1882-83.

SUB-DIVISION.	WELLS.						PONDS
	With Steps.			Without Steps.			
	Number.	Depth	Cost.	Number.	Depth.	Cost.	
		Feet.	£		Feet.	£.	
Junnar	193	50	30-100	3853	50	20-80	--
Khed	456	30	100-500	2838	20	20-200	433
Maval	220	30	50-90	275	40	30-80	245
Haveli	600	20	55-200	1329	25	10-150	77
Sirur	197	35	50-110	1819	40	40-90	26
Purandhar	368	31	50-120	1589	33	40-100	11
Bhimthadi	855	40	70-90	2518	50	50-70	20
Indapur	311	30	40-120	1227	35	30-100	26
Total	3203	20-50	30-500	15,448	220-50	10-200	888

A class of people called Panadis. that is water-showers who are generally Marathas, Mhars or Gosavis is by caste, are employed to point out where water will be found. They examine the soil and the adjoining wells and sometimes lie down with one of their ears to the ground to ascertain the flow of water below. The people still consult, them though they are said to be less trusted than they used to be. The

water-shower is paid a small fee in advance and a larger fee if water is found.

Patasthal.

Patasthal or channel-watering from the great saving of labour is far more profitable than well-watering. At the same time it is much less common as the number of sites with a sufficient head of water and command of land is limited. The chief channel water-works are across the Mina at Kusur, Vaduj, and Narayangaon, which water respectively twenty-five, seventy-eight, and 367 acres of garden land. The Narayangaon work is of some magnitude, the irrigating channels being two miles in length. None of these last through the year; the supply in almost all cases fails in February or March. Where sugarcane and other twelve-month crops are grown the channel supply is eked out from wells. Except the Government canals, channel water-works on a large scale are hardly known. The majority of the dams or *bandharas* are built of mud, and are renewed every year after the rains. A masonry dam which commands 500 to 600 acres and has cost £300 to £400 (Rs. 3000-4000) is considered a large work. The channels are not bridged, hedged, or otherwise sheltered, and the village cattle and carts cause much injury and waste. When the water in the river begins to fall below the level of the dam or channel head it is usual, if the distance is not great, to lift the water into the channel by a large wooden shovel or scoop hung by a rope at the proper level from a rough tripod of sticks. The scoop is swung to and fro by one or two men in such a way as at each swing to scoop up and throw a small quantity of water into the channel. This method does not raise water more than a foot or eighteen inches, but is useful when perhaps only one watering is required to complete the irrigation of a crop. The wells are the property of individuals, but the channel water is shared by all who originally built or who yearly rebuild the dam. The shares are portioned out in time, hours or days. This system of division by time works smoothly. The arrangement is superintended and regulated by one or more men called *patwaris* or channel-keepers who prevent disputes and keep the canals in working order. They are paid sometimes by grants of land and more often by small shares of garden produce.

GOVERNMENT WATER WORKS.

[The Poona Water Works Account owes much to corrections and additions by Mr. W. Clerke, M. Inst. C. E., Executive Engineer for Irrigation, Poona.] The chief water-works made or repaired by the

British Government are the Mutha and Nira canals, and the Kasurdi, Matoba, Shirsuphal, and Bhadalvadi reservoirs. Of these the Mutha and Nira canals draw their supply from the Mutha and Nira rivers which rise in the Sahyadris and have a never failing flow of water. The Matoba reservoir is fed from the right bank Mutha canal; the remaining reservoirs entirely depend on local rain. No landholders are forced to make use of water. Landholders who wish to have water apply to the subordinate resident on the works, and, either at the time of asking or at some later time, sign a form showing for how long and for what crop water is required. At the end of the season the areas watered are measured by the canal staff and the area and the charges sanctioned by Government are shown in a form which is sent to the Collector to recover the amount. The water rates, which are in addition to and distinct from the land rates, are fixed under the orders of Government on a scale which varies according to the crop for which water is required.

Since the beginning of British rule the scanty and uncertain rainfall in the country to the east of Poona had caused frequent failure of crops and much loss and suffering. In 1863-64, a more than usually severe drought caused such distress that Government determined to find how far this tract could be protected from famine by water-works. The inquiry was entrusted to Captain, now Lieutenant-General, Fife, R. E., who, as small reservoirs were then in favour, spent the season of 1863-64 in surveying the district to find sites for storage lakes. In a report dated the 25th of February 1864, Colonel Fife submitted the result of his investigation. This comprised detailed plans and estimates for six small reservoirs at Kasurdi where there was an old work, at Matoba, Khateka Durva, Khambgaon, Bhadgaon, and Chutorikur, all in Bhimthadi. Many other sites were examined and found unfavourable. His experience in this part of Poona satisfied Colonel Fife that small reservoirs were enormously costly and were open to the fatal objection that in any season of severe drought they would be useless as the streams that feed them entirely fail. He recommended that water should be led from the Mutha river by a high level canal starting from above Poona and extending to near Indapur, a distance of about a hundred miles. The Bombay Government agreed with Colonel Fife that small lakes were useless and that the only certain means of protection from famine was the water of rivers whose source is in the Sahyadris. The Mutha canal works were sanctioned, and the experience since gained, which embraces both river and lake works, leaves no question that Colonel Fife was right in holding that small storage lakes would fail to guard east Poona from famine. [Colonel, now Major-General, Strachey, then Inspector-General of Irrigation, expressed similar

opinions with regard to Gujarat, Khandesh, and the Deccan. Mutha Canals Report, 14th-February 1879.]

Mutha Canals.

Of the water-works which have been made since 1864 the chief are Lake Fife and the Mutha Canals. The final plans and estimates for the Mutha Canals scheme were submitted in 1868 and the work was begun in December of that year. The scheme included a large storage reservoir or lake at Khadakvasla on the Mutha river ten miles west of Poona, which has since been named Lake Fife. [By placing the headworks on the Mutha river an unfailing supply of water was secured as the source of the Mutha is among the Sahyadri hills where there is a certain rainfall of about 200 inches. The suggestion to use the Mutha river Water for irrigation was recorded by the Honourable My. Reeves in 1855. Mutha Canals Report, 14th February 1879.] From Lake Fife two canals start, one on each bank of the river. The right bank canal was designed to be 99½ miles long, but the actual completed length is 69½ miles ending in the village of Patas. The discharge at the head is 412 cubic feet a second and this can be increased to 535 cubic feet. The canal passes through the station of Poona. It was designed to command 230 square miles or 147,200 acres of land. As the complete design has not been carried out the actual area under command is 147 square miles or 94,080 acres, the whole of which suffers from scanty and uncertain rainfall. [The details of the rainfall at six places on the canal during the three years ending 1881 are:

Mutha Canals Rainfall. 1879-1881.

	HEAD-WORKS. LAKE FIFE.			POONA, 10TH MILE.			URULI, 35th Mile.		
	1879.	1880.	1881.	1879.	1880.	1881.	1879.	1880.	1881.
	In.	In.	In.	In.	In.	In.	In.	In.	In.
January	--	--	--	--	--	--	--	--	--
February	0.03	--	--	0.69	--	--	--	--	--
March	--	0.69	--	--	0.20	--	--	0.64	--
April	--	0.24	0.45	--	0.74	2.60	--	0.10	0.35

Total	17.55	7.44	9.78	16.41	16.96	15.06	27.46	16.58	17.63
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The left bank canal is eighteen miles long, passing a short distance beyond Kirkee. It commands an area of 3500 acres and the full supply discharge at the head is 38.5 cubic feet the second. The area which the complete scheme commanded was thus 150,700 acres which by shortening the right. bank canal has been reduced to 97,580 acres. Besides providing water for this parched tract of country, the work furnishes an abundant supply of pure drinking water to the city and cantonment of Poona, the Powder Works at Kirkee, and the numerous villages along the course of the canals. [The Poona Municipality pays £1000 (Rs. 10,000) a year for the supply of about 750,000 gallons daily delivered at the canal. bank. This supply is practically unlimited. Any excess is charged 4½d. (3 as.) the 1000 gallons. The following are the results of analyses of the water made by the Chemical Analyser during the years 1878, 1879, and 1880.

Mutha Canals Water, 1878.1880.

	SOLIDS.	CHLO- RINE.	AMMO- NIA.	ALBU. MENOID AMMO. NIA.	REMARKS.
	Grains per Gallon.		Parrs per Million.		
No. 1. Taken from the canal near head-works at 4 P.M. 11th June 1878.	7.70	0.42	0.10	0.07	<i>Sediments</i> , In Nos. 1 and 2, small in quantity; contain vegetable debris, paramacia, and rotifers. In No. 3, very scanty, only. vegetable debris; no infusoria.
No. 2. Taken from the canal near St. Mary's Church, Poona, 10 A.M. 12th June 1878.	5.85	0.42	0.04	0.06	
No. 3. Taken from dispense	5.60	0.42	0 06	0.06	

reservoirs at 10 A.M. 12th June 1878.					
No. 1. Taken from the canal near head-works at 6 P.M. 20th March 1879.	5.60	0.42	0.04	0.12	<i>Sediments.</i> In No. 1 vegetable debris, paramacia. In No. 2 the same but scanty. In No. 3 vegetable debris only.
No. 2. Taken from the canal near St. Mary's Church at 6 A.M. 21st March 1879.	5.25	0.42	0.04	0.12	
No. 3. Taken from dispense reservoirs at 6 P.M. on 21st March 1879.	5.60	0.42	0.02	0.08	
No. 1. Taken from the canal near head-works at G. P.M. on 23rd January 1880.	4.20	0.70	0.05	0.10	<i>Sediments.</i> In Nos.1, 2. and 3: all scanty, chiefly vegetable debris with confusoria, diatoms, and paramacia; a few rotifers in No. 2.
No. 2. Taken from the canal near St. Mary's Church at 6 A.M. 24th January 1880.	3.50	0.70	0.05	0.11	
No.3. Taken from the canal from distribution pipe in Poona at 6 P.M. on the 24th January 1880.	4.90	0.70	--	0.03	

]

Lake Fife is formed by a masonry dam founded on solid rock. The dam is of partly coursed and partly uncoursed rubble masonry and is one of

the largest works of its kind in the world. Exclusive of the waste weir which is 1393 feet long, the dam is 3687 feet long and rises ninety-nine feet above the river bed; the greatest height above the foundation level is 107 feet. The crest of the waste weir is eleven feet below the top of the dam. The contents of the reservoir are 4911 millions of cubic feet and the area of the water surface is 3535 acres or 5½ square miles. To gain sufficient elevation to command the station of Poona and the country beyond, the bed of the canals is fixed at fifty-nine feet above the river bed or bottom of the reservoir. The volume of water stored above the canal level is 3161 millions of cubic feet. At the site of the dam the river has a catchment area of 196 square miles. During an average season it is calculated that the reservoir will fill sixteen times. The canals are completely bridged and regulated throughout. The right bank canal is navigable in the ten miles to Poona. In the tenth mile the water supply for the city is drawn off. To avoid interfering with the buildings and the parade ground, the canal is carried through the station of Poona in two tunnels. On leaving the first tunnel in the centre of the cantonment, there is a drop in the canal bed. By means of an undershot wheel this fall is used to drive pumps for raising the water for the supply of the cantonment into the settling tanks, filter beds, and covered dispense-reservoirs of the high and middle service systems. From the canal itself low service mains and branches are led off. For irrigation beyond Poona there is provision for complete distribution. The total estimated cost of the works, including the Poona water-supply and indirect charges, that is capitalization of abatement of land revenue leave and pension allowances and interest on direct outlay, is £937,400 (Rs. 93,74,360). The works were partly opened in November 1873. Enough of the dam and waste weir was completed to store the water of the lake twelve feet above the level of the canal sluices and the canal was nearly finished to Poona. At first water was supplied only for house purposes in Poona. In February 1874 it was made available for crops, the area under command up to Poona being 30 10 acres. Before June 1874, the depth of storage was increased to fourteen feet and the distribution arrangements in the station of Poona were begun, and with the exception of the high service distribution were completed during the two following years. By 1877-78 the depth of storage was increased to twenty-five feet. The right-bank canal earthworks were completed as far as the sixty-fourth mile, but water was admitted only as far as the forty-fourth mile. By the fifteenth of January 1878 the eighteen miles of the left-bank canal were opened commanding 3500 acres, and the high service distribution for water-supply to the station of Poona was completed. In 1879-80 the parapet of the dam at Lake Fife and the earthwork on the rear side of the dam were completed.

The unfinished parts of the waste weir were raised by temporary earthen banks so as to impound water up to the full supply level, twenty-nine feet above the sill of the sluices. The masonry works on the right-bank canal were completed and water admitted as far as the sixty-fifth mile. By 1882 the waste weir was completed with the exception of 500 feet at the west end, which was one foot below full supply level; the masonry works of the seventh portion to Patas were completed and the whole of the 69½ miles of the right-bank canal were made available for use, thus practically completing the work. The following statement compares the areas irrigated and assessed, and the actual revenue, working expenses, and net revenue during the nine years ending 1881-82:

MUTHA CANALS RECEIPTS, 1873-1882.

YEAR.	AREA WATERED	ASSESSMENT.			
		Water Rates.	Town Water.	Other.	Total.
--	Acres.	£	£	£	£
1873-74	41	16	--	21	37
1874-75	85	36	2300	207	2542
1875-76	732	303	4034	94	4431
1876-77	2034	1137	5277	55	6490
1877-78	5361	2275,	6538	54	8866
1878-79	4913	2899	5850	39	8789
1879-80	7319	4995	6124	71	11,190
1880-81	12,201	5534	6080	119	12,334
1881-82	8973	6079	6990	130	13,199
Total	41,662	23,274	43,813	790	67,878

MUTHA CANALS RECEIPTS, 1873-1882— continued.

YEAR.	Receipts						CHARGES.
	Water	Town	Other.	Total.	Savings.	Total.	

	Rates.	Water.					
	£	£	£	£.	£	£.	£
1873-74	--	--	21	21	--	21	4
1874-75	16	537	206	759	2618	3377	1474
1875-76	81	2337	05	2514	1931	4415	1840
1876-77	269	3256	43	3569	1564	5133	2378
1877-78	1065	10,931	60	12,056	1326	13,382	3645
1878-79	2519	6157	39	8716	2046	10,762	4388
1879-80	3989	5872	69	9930	2047	11,977	4458
1880-81	4321	6799	120	11,241	1768	13,009	5561
1881-82	7232	6798	131	14,160	1960	16,129	6583
Total	19,494	42,687	784	62,966	13,269	78,235	30,331

The following statement gives a comparison of the area watered and the rainfall during the same period:

MUTHA CANALS IRRIGATION AND RAINFALL, 1873-1882.

YEAR.	IRRIGATION.			RAINFALL.					
	Early.	Late.	Total.	AT POONA.			AT PA'TAS.		
				Early.	Late.	Total.	Early.	Late.	Total.
	Acres.	Acres.	Acres.	In.	In.	In.	In.	In.	In.
1873-	--	44	44	25.00	1.80	20.80	12.71	1.47	14.18

74									
1874-75	1	84	83	28.61	6.27	31.88	22.61	1.45	24.06
1875-76	401	331	732	33.19	1.59	34.78	7.92	4.49	12.41
1876-77	288	1716	2034	14.28	0.52	14.80	5.97	6.35	12.32
1877-78	2405	2866	5361	14.31	4.13	18.44	9.72	6.33	16.05
1878-79	2225	2658	4913	25.4	6.51	31.91	22.00	3.58	25.58
1879-80	3332	3987	7319	23.27	2.58	25.85	19.90	3.23	23.13
1880-81	5966	6235	12,201	15.74	4.91	20.65	10.34	5.23	15.57
1881-82	4450	4517	8973	17.61	4.38	21.99	11.21	3.81	15.05

In 1880-81 the area watered was sixty-six per cent greater than in 1879-80. This was partly due to short rainfall but mostly to the extension of distributing channels. In 1880-81 the crops irrigated under the canals were cereals 8339 acres, pulses 967 acres, sugarcane 1966 acres, and other garden produce 929 acres. The irrigation rates at present in force belong to five classes with an acre charge on the first class of £1 to £2 10s. (Rs. 10.25), on the second of 8s. to 10s. (Rs. 4-5), on the third of 3s. to 4s. (Rs. 1½.2), on the fourth of 6d. to 1s. (4-8 as.), and on the fifth of 9d. (6 as.). After the opening of the Mutha canals the amount of vegetables and green fruits booked at the Poona station rose from 4574 tons (128,094 *mans*) in 1871 to 7008 tons (190,236 *mans*) in 1876. The first effect of the opening of the canal was that the people gave up their wells and took to canal water. Of ninety-nine wells on the lands commanded by the canal by the end of 1876 sixty-five had ceased to be used. Since its opening the sowing of *babhul* seed and the planting of trees along the banks of the canal have been steadily carried on. In some places the trees have grown freely and the line of the canal is marked by a belt of green. Other places are too rocky for trees. Still year by year as the sowing of *babhul* seed is persevered with the breaks in the line are gradually becoming fewer and shorter. The Mutha canals project is in every respect the most promising of the water works yet undertaken

in the Deccan. The rapid spread of irrigation has been satisfactory and there can be little doubt that it will ere long pay the interest on its borrowed capital. So much of the canal passes through crumbly trap or *murum* that loss from leakage is serious and somewhat interferes with the original estimate of the area which the canal can water. Besides the direct ' receipts the canal confers many indirect gains on the country through which it passes. Villages in which during the greater part of the year there was formerly a great scarcity of water have now an abundant supply for drinking and for cattle.

A white marble tablet with the following inscription cut in black letters, and a companion Marathi tablet, have been let into the bridge by which the right bank canal crosses the Sholapur road about thirty-eight miles east of Poona:

V R. E T I.

THE MUTHA CANAL

Supplied by Lake Fife situated 10 miles west of Poona,

Extends to Fatas, in the Bhimthadi Taluka.

Its total length is 69½ miles.

The earthworks of this section, extending from 29 to 6½ miles,

afforded employment for the people during the Famine of

1876-77.

On an average, 10,000 people of all ages were employed daily

for a period of fourteen months,

the highest number on any one day being 21,000.

The expenditure was Es. 3,90,000

on wages and charitable relief,

and the value of the work executed was Rs. 2,17,000

The masonry works were subsequently completed,

and water was admitted up to the 65th mile

in September 1879.

William Clerke, M. Inst. C. E., Executive Engineer for Irrigation, Poona.

E. B. Joyner, C. E., Assistant Engineer, in immediate charge of the
Works

Nira Canal.

[Contributed by Mr. J. E. Whiting, M.A., M. Inst. C. E., Executive Engineer for Irrigation Nira Canal,] The Nira Canal is designed to irrigate the left bank of the Nira valley and a part of the Bhima valley near the meeting of the two rivers, to supply towns and villages along the valley with water for household purposes wherever the wells are insufficient or brackish, and to utilize the water power that will be generated at the head-works and near the tail of the canal at Indapur. In 1864 as part of his inquiry into the best means of protecting East Poona from famine Colonel Fife, R. E., organised surveys of the Nira river. These surveys showed that, by starting near Shirval about thirty-two miles south of Poona, a canal would reach the parts of Bhimthadi and Indapur which. chilly required water. Nothing further appears to have been done till January 1868, when, in consequence of a threatened failure of crops, a committee consisting of Colonel Francis, Survey and Settlement Commissioner Northern Division, Mr. J. E. Oliphant C. S., Collector of Poona, and the late Lieutenant Buckle, R. E., Executive Engineer for Irrigation, were appointed to consider what survey operations should be undertaken for irrigational works. This committee reported that the tract most deserving of attention was the part of Indapur which lies between the Bhima and the Nira. In this tract the annual rainfall was so uncertain and capricious that the crops frequently failed several years in succession; it might with reason be termed a drought-stricken region. In these opinions Mr. A. F. Bellasis, C. S. the Revenue Commissioner concurred and Mr. J. W. Hadow, C. S. Revenue Commissioner Southern Division, in forwarding Colonel Francis' report, speaks of Indapur as having a worse rainfall than almost any part of the Deccan or of the Bombay Karnatak. In consequence of these recommendations in 1868 the surveys of the Nira project were resumed by Lieutenant Buckle. At the close of 1868 the Mutha works required Lieutenant Buckle's whole attention, and early in 1869 Mr. J. E. Whiting, M.A. M. Inst. C. E., was appointed to the survey under Colonel Fife's orders. Detailed surveys for the canal alignment, the choice of the site for the reservoir and the site for the

canal head works, together with the making of plans and estimates and writing the final report, occupied Mr. Whiting and his staff for two and a half years. During this period, in consequence of a severe drought, fifty per cent remissions were granted in forty-three dry-crop villages and twenty-five per cent in thirteen other villages of Indapur. The plans had been reviewed by the Chief Engineer, but further progress was stopped by order of the Government of India. Mr. Whiting was appointed Executive Engineer for Irrigation in Poona, and nothing more was done until the failure of rain in 1876. Towards the close of 1876 Mr. Whiting, with four of the staff that had formerly helped in making the Nira surveys, was sent to recover the old line and to modify the plans so as to make the work suitable for famine relief. Early in 1877 earthworks were opened for gangs sent by the Collectors of Sholapur, Satara, and Poona. The numbers rapidly rose from 5000 to 24,132 persons, who, with their sick and children, were employed or received relief on the Nira canal. Towards the end of 1877 as the famine was over relief-works were closed; but the high price of gram caused so much distress that for six months in 1878 relief-works had to be re-opened on the Nira canal and again on account of damage done to the crops by rats in 1879. The relief works were finally closed in March 1880. During twenty six months they had given employment to an average of 8096 person of all ages Mr. Moore C. S. Collector of Poona Mr. Richey, C. S. acting Collector, and Mr. Robertson, C. S. Revenue Commissioner Central Division, urged the necessity of completing the works. Petitions from forty-six villages representing over 60,000 acres of land in Indapur were received praying for the early construction of the canal and promising to pay the water rates. The matter was strongly pressed by the Government of Bombay and their views were submitted by the Government of India to the Secretary of State in August 1880. Sanction to complete the head-works and the first thirty-five miles of the canal from ordinary funds was granted by the Secretary of State in November 1880. In 1881 the Government of India accorded sanction to the first two stages of the Nira canal project as a protective work at an estimated cost of £415,000 (Rs. 41½ *lakhs*). Of this £80,000 (Rs. 8 *lakhs*) had been spent. To complete the project funds were provided from the grant for Protective Public Works and the execution of the project was entrusted to Mr. Whiting, Executive Engineer 1st Grade, Mr. J. H. E. Hart being Chief Engineer for Irrigation.

The Nira canal lies along the left bank of the Nira river. It has a length of 103 miles exclusive of distributing channels, and commands 280,000 acres of arable land in ninety villages in the Purandhar, Bhimthadi, and Indapur sub-divisions. The works will furnish an

unfailing supply of water to 100,500 acres. The Nira and its three large feeders rise in the Sahyadris and up to the canal head have a catchment area of over 700 square miles. During the south-west monsoon, that is from mid-June to mid-October, the Nira continuously discharges far more water than can be used in the canal. It has also in ordinary seasons a considerable flow to the end of December. To ensure the supply during the rest of the dry season very extensive storage works were required. A reservoir nineteen miles long and with an area of $7\frac{1}{4}$ square miles, or nearly two square miles more than the area of Lake Fife, is to be formed on the Velvandi, a feeder of the Nira, at Bhatghar near the town of Bhor by a masonry dam over 3000 feet long and over 100 feet high. This lake will have a capacity of 4641 million cubic feet, which by the use of falling shutters designed for the weir can be increased to 5500 millions. This gives a storage cost of £18 2s. (RS. 181) per million cubic feet, a low rate compared with the cost in other reservoirs. Twenty large under-sluices are provided to carry off the early silt-laden floods. The headworks of the canal are at Virvadi in Purandhar, nineteen miles further down the river, where a weir of concrete faced with rubble masonry forty-two feet high and 2300 feet long and backed by subsidiary weirs about half its height has been built across the Nira and the Vir near their meeting. This will raise the water to the full supply level in the canal, to which it will be admitted by large iron sluice gates. The supply basin above the weir will extend about eleven miles to Shirval, which is half-way between Vir and Bhatghar. After leaving Vir the canal crosses the old Satara road about two miles north of the Nira bridge and passes above all the larger villages in the valley. These are, Vadgaon at the 26th mile, Korhale at the 29th mile, Pandar at the 35th, Malegaon at the 40th, Baramati at the 48th, Sansar at the 64th, Haturne at the 70th, Shegaon at the 81st, Gotundi at the 87th, and Nimgaon at the 92nd. Near Nimgaon the canal crosses the water-shed above the town of Indapur into the Bhima valley and ends at Bijavdi at the 77th mile of the Poona and Sholapur road. The Mutha right bank canal ends near the 40th mile of that road and the Shirsuphal and Bhadalvadi reservoirs with their distributaries have been constructed between the ends of the two chief irrigation canals. In addition to the Nira canal two large reservoirs have been designed, one just above the town of Indapur and the other at Vadapuri near Nimgaon. These have little or no natural catchments, but will be tilled from the canal during the south-west monsoon and will thus increase the supply available during the dry weather at the end of the valley most distant from the main reservoir at Bhatghar. A branch canal has also been proposed, which will leave the main canal near Pandar at the thirty-fourth mile, and cross the river Nira at Kamleshvar in order to water the drought-

stricken sub-division of Malsiras in Sholapur on the right bank of the valley. These extra works and the necessary widening of the canal will probably be undertaken only if famine breaks out afresh and if employment is again required for the relief of neighbouring sub-divisions or if the demand for water under the canal exceeds the supply available from the first two stages, namely the Bhatghar reservoir and the present canal.

In many places the hilly nature of the ground has made the course of the canal winding. In several cases, as at Korhale, Malegaon, and Nimgaon, rocky spurs have been cut through to avoid long detours. At those places the cuttings are thirty-five feet deep at the centre and half a mile long. Many large watercourses had also to be crossed so that twenty aqueducts, ninety-four culverts, and nine over-passages had to be constructed. Of the watercourses the largest is the Karha, which drains 440 square miles and has a steep and generally rocky bed. The canal crosses it at the forty-fifth mile near Baramati by an aqueduct of thirteen spans of thirty feet and twenty-three feet headway. This is probably the most favourable crossing in India of a large and dangerous torrent by an aqueduct. The over-passages are of somewhat novel design and appear like huge inverters over which the streams are passed while the canal runs underneath, through double galleries arched across. In two of the over-passages, one near Vadgaon and one at Pandar, the inverters have a span of ninety feet. There are thirty-seven road and accommodation bridges and several foot and cattle bridges. Most of the aqueducts and culverts have been made so as to allow carts or cattle to pass under them, so that on an average there is some crossing provided at about every half mile of the canal. First class bungalows have been built at Bhatghar, at Virvadi, and at Baramati, and smaller bungalows at the Nira bridge, Vadgaon, Pandar, Sansar, Haturne, Gotundi, and Tarangvadi. The population of the valley has greatly decreased of late years, but the soil is generally good and capable of maintaining a much larger population than it now supports. It is expected that the first fifty-two miles of the canal will be opened so as to utilize the Nira water in the monsoon of 1884. There can be little doubt that when the valley is protected from drought capital will flow into it and enable the people to utilize the water to the utmost. It is hoped that this canal, whose primary object is to protect the area under command from the effects of drought, will ultimately develop a net revenue more than enough to cover the interest on the outlay.

A white marble tablet with the following inscription cut in black letters and a companion Marathi tablet have been set at the canal headworks twenty miles east of Bhatghar:

V. K. ET I.

THE NIRA CANAL.

Designed for the irrigation of the lands of 90 villages.

On the left bank of the Nira River.

Comprising a culturable area of 437 square miles.

Is 103 miles in length, excluding branches.

Its supply is rendered perennial by a storage lake at Bhatghar

on the Velwandi river, 20 miles west of this place.

The canal was commenced for the employment of the people

during the Famine in 1876-77.

For twenty-six months an average of 8096 persons of all ages were employed,

the highest number in any one day being 24,132.

The expenditure was Rs. 7,56,873 on wages and charitable relief.

The value of the work executed was Rs. 5,00,365.

On the cessation of the distress caused by the Famine and subsequent

period of high prices, the works were suspended in March 1880.

They were resumed in January 1881, and the canal was first opened for irrigation in 1884. J. E. Whiting, M.A., M. Inst. C. E., Executive Engineer, Nira Canal.

[Mr. Whiting mentions the names of Messrs. E. Behrman, assistant engineer, D. Henry and Ravji Trimbak sub-engineers, Rokmaji Narayan, supervisor, and Ganesh Janardan and Narayan Vishnu

overseers. The chief contractor was a Nagar Brahman of Surat named Navtamram Uttamram.]

Reservoirs.

Kasurdi.

At Kasurdi in Bhimthadi, twenty-four miles east of Poona, at a cost of £1182 8s. (Rs. 11,824) a reservoir was made in 1838 under the advice of the Revenue Commissioner Mr. Williamson. In 1843, the whole of the earthen embankment was washed away, but the masonry was unhurt. Its restoration was begun by the irrigation department as a famine relief work in 1864, and it was completed as an ordinary work when the necessity for relief ceased. It is a small reservoir, dependent for its supply on the local rainfall over an area of six square miles. It was finished to test the value of reservoirs which depended for their supply on local rainfall. The restored reservoir holds 14½ millions of cubic feet of water and is furnished with two distributing channels commanding 585 acres. The work was finished in 1869 and the pond was filled for the first time in August of that year. The total cost was £4749 12s. (Rs. 47,496), that is at the rate of £8 (Rs.80) on every acre under command. From 1869 to 1883, the supply has been most uncertain. In some years the reservoir has filled; in others it has remained almost dry. The irrigation rates at present in force are the same as those sanctioned for the Mutha canal beyond the eight mile radius from Poona, *Babhul* seed has been sown below the embankment and has thriven fairly. A few trees of other kinds have also been planted. As this work depends for its supply on a restricted area in a tract of very uncertain rainfall, the results can never be satisfactory.

Matoba.

in the village of Pimpalgaon in Bhimthadi, twenty-eight miles east of Poona, near the railway station of Yevat, a reservoir called Matoba after a neighbouring temple of Matoba or Matakmal, was made in 1876-77. The reservoir is designed to store the surplus waters of the right bank Mutha canal and water the land between it and the Mutha-Mula river. At full supply level it has an area of 470 acres and a capacity of 229 millions of cubic feet. The site was chosen and surveyed by Colonel Fife, R. E., in 1863, when examining the best means for irrigating the country east of Poona. As the Mutha canal project was undertaken the scheme for the Matoba reservoir was laid aside. In 1876-77, when famine relief works were started, the

Executive Engineer for Poona, Mr. Clerke, revised the plans and estimates and recommended the project because as the Mutha right-bank canal passes close above the site of the lake it would form an auxiliary to the canal, whose surplus waters might during the south-west monsoon be stored for use in the dry season. The work was begun in December 1876 and completed almost entirely by famine labour in August 1877. The reservoir is formed by an earthen dam 6095 feet long and forty-eight feet in greatest height. The full supply level is nine feet below the top of the dam. The waste weir on the left flank of the dam is 600 feet long. The outlet whose level is ten feet above the bottom consists of a masonry culvert under the dam where it abuts on the right flank and three twelve-inch iron sluice valves of the ordinary pattern in use for water-supply mains. These valves are attached to lengths of pipes set in concrete at the inner end of the culvert and are worked by iron rods laid along the dam slope. The main distributing channel is 114 miles long and is capable of discharging twenty-six cubic feet a second. It has a main branch to the village of Pimpalgaon which again divides into two branches of a total length of six miles. Of 8550 acres under command, 3600 acres are in Pimpalgaon, 2900 in Delavdi, fifty in Khatbai, and 2000 in Pargaon. The catchment area is only ten square miles and the average rainfall under twenty inches, but with the aid of the surplus water from the right bank Mutha canal the monsoon demand for water can be supplied and the reservoir can always be left full in October when the south-west monsoon closes. A regulating bridge is built across the Mutha canal at the $49\frac{3}{4}$ th mile from Poona by which the water in the canal can at any time be turned into the reservoir. From the fifth of August 1878 water from the Mutha canal began to be available. The irrigation rates at present in force are the same as those sanctioned for the Mutha canals beyond the eight mile radius from Poona. For a length of four miles the boundary of the land taken for the reservoir is fenced with aloe. The margin above the water level has been sown with *babhul* seed, which at the upper end has grown remarkably well.

A white marble tablet with the following inscription carved in black letters and a companion Marathi tablet have been set at the west end of the dam:

V. R. ET I.

THE MATOBA TANK

Designed for storing surplus water from the Mutha Canal

and irrigating the tract of land lying between

the Tank and the Mutha-Mula River

Has an area of 470 acres and a capacity of

229 millions of cubic feet.

The earthworks of the dam were commenced for the

employment of the people

during the Famine of

1876-77.

For eighteen months they afforded employment for,

on an average, 3100 people of all ages,

the highest number on any one day being 8300.

The expenditure was Rs. 1,98,000

on wage.; and charitable relief,

and the value of the work executed was Ra. 1,40,000.

The Tank was completed

and opened for irrigation in October 1873.

William Clerke, M. Inst. C. E., Executive Engineer for Irrigation, Poona.

Shirsuphal

One and a half miles above the Bhirathadi village of Ravangaon, fifty miles east of Poona, on the Rotimal, a small feeder, is the Shirsuphal reservoir called after the village of that name three miles further up the stream. The reservoir was designed to water the lands on the left bank of the Rotimal. At full supply it has an area of 834 acres and a capacity of 307 millions of cubic feet. In January 1877, when it became necessary to provide work for the destitute people of East Poona, plans and estimates were prepared by Mr. Clerke the Executive Engineer for Irrigation. Work was begun in February 1877 and finished

in October 1878. The dam is of earth, 2200 feet long and fifty-three feet in greatest height. The full supply level is eleven feet below the top of the dam, and the outlet level is eleven feet, above the bottom of the reservoir. The waste weir channel, which is on the right flank of the dam, is 300 feet wide. The outlet, a masonry culvert under the dam where it abuts on the right flank and three twelve-inch iron sluice valves, is of the same pattern as that described for the Matoba reservoir. The canal leading from the reservoir is 12½ miles long, with a fall of three feet a mile and a discharging capacity at the head of thirty cubic feet; a second. Of 4500 acres under command 800 are in Ravangaon, 1500 in Kharki, and 2200 in Chincholi. The catchment basin has an area of twenty-three square miles, with an average rainfall of eighteen to twenty inches. The reservoir fills only during years in which the rainfall is considerably above the average, but the additional storage capacity admits of the supply of favourable years being stored for use in years of short rainfall and thus ensures a large average supply. In 1880-81 the irrigated crops were cereals 661 acres, pulses 55 acres, sugarcane 4 acres, garden produce 4 acres, and condiments 11 acres. The water rates at present in force are based on the classified lists sanctioned for the Mutha canals. There are five classes with an acre charge on the first class of £1 (Rs. 10), on the second of 8s. (Rs. 4), on the third of 4s. (Rs. 2), on the fourth of 2s. (Rs. 1), and on the fifth of 8s. (Rs. 4). The margin of the reservoir above the line of full supply has been fenced with aloe and sown with *babhul* seed, but owing to the stony soil the *babhul* has not done well. *Babhul* seed sown below the dam has thriven remarkably well and now forms a belt of good-sized trees. As the rainfall on the catchment is very uncertain the supply of water is precarious and in some years the irrigation has to be much restricted; this is to be regretted as the holders of the land commanded by the reservoir have shown themselves anxious to obtain a supply of water.

A white marble tablet with the following inscription cut in black letters and a companion Marathi tablet have been set at the west end of the dam:

V. B. ET I.

THE SHIRSUPHAL TANK.

Designed for the irrigation of the lands lying
on the Left Bank of the Rotimal Nala,

Has an area of 834 acres and a capacity of
367 millions of cubic feet.

The earthworks of the dam were commenced for the
employment of the people
during the Famine of
1876-77.

For sixteen months they afforded employment for,
on an average, 2100 people of all ages,
the highest number on any one day being 9000.

The expenditure was Es. 1,58,000
on wages and charitable relief,
and the value of the work executed was Es. 1,45,000.

The Tank was completed
and opened for Irrigation in October 1878.

William Clerke, C. E., Executive Engineer for Irrigation, Poona Division.

Bhadalvadi.

In the Indapur village of Bhadalvadi, on a feeder of the Bhima, about sixty four miles east of Poona, the Bhadalvadi reservoir was begun as a relief work in the famine of 1876-77, and finished and opened for irrigation in May 1881. It was designed to water the lands of the villages of Daluj and Palasdev. At full supply it has an area of 335 acres and a capacity of 222 millions of cubic feet. It is formed by an earthen dam 2725 feet long and fifty-five feet at its greatest height. The drainage area above the dam is twenty-three square miles. During the five years ending 1882-83 the average rainfall has been 21.53 inches. The waste weir on the left, flank is 400 feet long with a crest eleven feet below the top of the dam.

A white marble tablet with the following inscription cut in black letters and a companion Marathi tablet have been set at the north end of the dam:

V. E. ET I.

THE BHADALVADI TANK

Designed for the irrigation of lands in the villages
of Daluj and Palasdev.

Has an area of 335 acres and a capacity of
222 millions of cubic feet.

The earthworks of the dam were commenced for the
employment of the people
during the Famine of
1876-77.

For twelve months they afforded employment for,
on an average, 1600 people of all ages,
the highest number on any one day being 5400

The expenditure was Es. 54,000
on wages and charitable relief,
and the value of the work executed was Rs 48,000

The Tank was completed
and opened for Irrigation in May 1881

William Clerke, M. Inst C. E., Executive Engineer for Irrigation, Poona.

The outlet, which is on the right flank of the dam, is of similar construction to those described in the Matoba and Shirsuphal reservoirs. Its sill is thirty-five feet below full supply level. From it a

canal or distributing channel, with, at the head a discharging capacity of fifteen cubic feet the second, is led $6\frac{1}{4}$ miles along the right bank of the stream. The area under command is 1900 acres. A distributing channel heading from the same outlet in the left bank of the stream is also projected. Its length will be $3\frac{1}{2}$ miles and it will command 1100 acres. The work was opened in 1881. The irrigation rates are the same as those mentioned under the Shirsuphal reservoir.

Besides these works designed for irrigation, there are two large reservoirs at Katraj and Pashan and two more at Patas and Supa. The Patas and Supa reservoirs were made as relief works during the 1870-77 famine.

Katraj.

In the high land about two miles to the north of the; Katraj pass and about six miles south of Poona is the Katraj lake, which was built in 1750 by Peshwa Balaji Bajirao. It covers an area of $5\frac{1}{2}$ acres and has a dam of rubble masonry 1000 feet long and forty feet high. It holds water all the year round and has a greatest depth of forty feet. The water is used only for drinking. Masonry conduits lead to Poona where there are cisterns or *hands* in different parts of the town.

Patas.

In the Bhimthadi village of Patas, about thirty-seven miles east of Poona, a reservoir was begun as a famine relief work in January 1877 and finished in 1879. It is a small reservoir with a full supply area of forty-six acres, a capacity of fifteen millions of cubic feet, and a catchment area of three square miles. The earthen dam is 2900 feet long and twenty-nine feet in greatest height. The waste weir is 170 feet long and is seven feet below the top of the dam. The total cost was £3400 (Rs. 34,000). The site is very unfavourable and the cost is out of proportion to the capacity of the reservoir. Its only use is to provide water for house purposes and cattle in the village of Patas. It was carried out only to afford relief which was urgently needed.

Supa.

About one mile north-west of the Bhimthadi village of Supa and thirty-live miles end of Poona, the Supa reservoir was begun as a famine relief work in November 1876 and finished in 1877. An earthen dam is laid across a gap in an old embankment thrown up from the excavation of a small pond many years old. The total cost was £220

(Rs. 2200). This is a trifling work useful only for cattle. It was carried out solely to relieve distress in the immediate neighbourhood.

Pashan.

On a feeder of the Mula in the village of Pashan six miles west of Poona a reservoir was made in 1867-68 at a cost of £16,700 (Rs. 1,67,000) to furnish water for the station of Kirkee and Government House, Ganeshkhind. It is formed by an earthen dam 2750 feet in length with a greatest height of fifty-two feet. The waste weir is 400 feet long and its crest is ten feet below the top of the dam. The full supply area of the lake is 153 acres. Its available capacity is seventy-three millions of cubic feet, and the catchment area is sixteen square miles. The water is led from the reservoir in a ten-inch cast-iron main which goes through the Government House grounds, by the cantonment of Kirkee, on to the Powder Works. The water is fully distributed in Government House and in Kirkee barracks and cantonment. It was of great use before the left bank Mutha canal was made.

IRRIGATION

WEEDING.

There are two modes of weeding, by a sickle or *khurpe* which is generally practised in hill-lands, and by a small hoe or *khulpe*. When the crop is six inches high, to clear it of weeds, the small hoe or *kulpe* is usually used twice at intervals of ten to twelve days. The hoe is drawn by two muzzled oxen and is driven so that the row of springing crop passes through the space between the blades. It is often used double, that is one pair of oxen draw two hoes. The uprooted weeds are gathered and are either thrown away or left to rot on the spot. Besides lessening the drain on the soil, weeding loosens the soil and enables it to take in and hold more moisture. The crop roots have free scope and the plants grow-vigorously. If weeding is neglected the surface grows hard and crusted and the water failing to soak in washes away the particles of soil. Cold-weather crops seldom want weeding, as the ground is both too carefully cleaned and too dry to yield any large supply of weeds. Malis are the cleanest weeders; Kunbis, especially in the east, are careless.

WATCHING,

From the time the grain forms, to drive off birds the crop is watched from a wooden shed called *mala* generally set on a platform or in a tree about ten feet from the ground. The watcher, who is generally a boy, shouts and throws stones from a sling called *gophan*.

REAPING.

When ripe the crop is either reaped by the sickle or *vila* or pulled up by the roots, and bound in sheaves. It is carried in carts to the thrashing-floor or *khale* and stored there till it is dry. The largest and best filled heads are separated and their grain kept for seed. In the sowing season this seed grain realizes half as much again as ordinary grain.

THRASHING.

The crops are taken in carts to the thrashing-floor or *khale*. The thrashing-floor is made in the hardest part of the field or sometimes near the village site, by wetting and beating the ground till it is hard and smooth, and then smearing it with cowdung. An upright post or *tivda* is set in the centre and a sheaf of the crop is tied to the top of the post. In the case of Indian millet or *jvari* and spiked millet or *bajri* the heads of grain are broken off by women and thrown round the central post five or six inches deep; of wheat and rice the whole plant is thrashed; and of *math*, *mug*, and other pulses sometimes the whole plant and sometimes only the stalks are thrashed. Six, eight, or more muzzled oxen are tied to the pole, half on one side half on the other, facing opposite ways, and driven round and round treading out the grain. *Tur* pods and barley beads are beaten against a log of wood so that the grain falls on the floor.

WINNOWING.

The grain is winnowed from the chaff with the help of the wind. The chaff is filled into baskets which are handed by one man to a second man who stands on a high three-legged stool called *vavdi*, and empties the basket slowly with a shaking motion. The heavy grain falls, the light grain and chaff are blown aside. A man at the foot of the stool sweeps the chaff from the edge of the grain with a small broom called *hatni*. To cleanse it still further the grain is afterwards passed through a sieve or *chalan*.

STORING.

In the east grain is often stored in underground chambers or *pevs*. Grain is also of ten in the east and always in the west stored in large cylindrical baskets called *kanings* or *kangis* made of *nirgundi* or *tur* twigs and smeared inside and out with cowdung. The surface of the gram is also thick plastered with cowdung and the basket is covered with a conical thatch roof. In the west, the baskets stand at some little distance in front of the house for safety from fire, with a few loose stones under them to keep out white ants. In the east they usually stand in the veranda of the house.

MIXED SOWINGS.

In the lighter eastern soils as many as six grains may be seen growing together year after year. A field with one crop is seldom seen. In the May or June sowings *bajri*, *tur*, *ambadi*, gingelly seed, *rala*, *mug*, and *shalu jvari* may all or almost all be seen together. In the late crops, safflower is almost always mixed with the staple crop gram or *shalu jvari*. Linseed is sown in rows with gram and wheat. The practice of mixed sowings arises chiefly from the poverty which dares not risk the total failure of a single crop. It was fostered by a custom which prevailed under former Governments of attaching the staple crop until the assessment was paid, *in* such a case the Kunbi could still make something out of a mixed crop.

WOOD-ASH TILLAGE.

Wood-ash tillage, called *dalhi* or *kumri*, is confined to the hilly west. The word *dalhi* is taken from the small hill-side plots or *dalhas* where none but hand tools can be used. The spots cultivated are often extremely steep. Operations are begun in the cold weather by felling the brushwood and small trees and lopping the branches of the larger trees. At the end of the hot weather the dry branches are burnt and the ground is at once cleared and manured. After rain has fallen the soil is loosened with the hand hoe or *kudal* and the crop is planted or sown as the ease may be. *Khurasni*, *nagli*, *sava*, *vari* and *kodra* or *harik* are the crops. Tillage is generally continued for five years beginning with *khurasni* and ending with *kodru*. The subsequent fallow lasts ten to fifteen years. This form of tillage was never practised except by Kolis, Thakurs, and other half-wild tribes. It is now confined within very narrow limits.

ROTATION.

Rotation of crops is not unknown though the practice of mixed sowings robs it of half its value. In the lighter soils *jvari* and *bajri* mixed as above alternate, the plough being used after *jvari* on the borders of the west, and after *bajri* in the east. *Bajri* is often grown three or four years running; *jvari* is seldom repeated so often as it takes more out of the ground. In the heavy deep soils cold-weather millet or *shalu* *jvari* is grown for several years running, relieved sometimes by a crop of gram or wheat. Where wheat is the staple late crop it alternates with gram, but is not grown year by year. In the west the rotation in early or *kharif* lands is more elaborate. Fallow land is ploughed and sown with *khurasni* the first year, with *nagli* the second year, and with *vari*, *sana*, *rala*, *bhadli*, or *kodru* the third and fourth years. In the fifth year *khurasni* is again sown and the land is left fallow for four or five years. The land is ploughed before each crop, but, except in the *nagli* and *vari* seed beds no manure is used. This course of crops is sometimes cut short by sowing *khurasni* in the third year succeeded by the fallow. It is also occasionally prolonged a year or two with similar crops, *khurasni* being always the last. Under the most favourable circumstances the rotation in gardens lasts three years. The course begins in July with *tag* or hemp, *Hibiscus sativus*, a crop which requires water about once in fifteen days. In October, after the larger plants have been picked and set aside for rope-making, the rest is ploughed into the ground as manure. The land is then flooded and left for twenty days, when it is ploughed twice and prepared for sugarcane. When the cane begins to sprout *val* pulse is sown. The sugarcane is cut. in the following March, the leaves are lopped on the spot and burnt as soon as they are dry, and the land is flooded. The land is ploughed with shallow furrows and *val* is sown as fodder. The *val* is taken up before July when the land has to be prepared for *kamod* rice. The rice is sown in July and cut in December. After two or three ploughings wheat is sown and cut in the end of April. The land is now ploughed and lies uncropped till July when perhaps earthnuts are planted and dug up in October. This order is liable to many changes' according to the varying qualities of soil, water-supply, and the circumstances and opinions of the husbandman. Sometimes *methi*, that is Greek grass, or *khurasni* are ploughed into the soil instead of *tug* or hemp, and a four-year or even a five-year rotation is followed. In well-watered lands a three-year rotation is not common, for, in addition to the expense of well irrigation, the water-supply lacks the power supplied by the combination and co-operation which are distinctive of canal watered lands.

FALLOWS.

In the plain parts of the district land is sometimes left fallow, but it is a question how far husbandmen leave plain land fallow simply for to rest it. The fallow in wood-ash or *dalhi* land is certainly with the object of resting the land and lasts ten to fifteen years.

GARDENING.

[Mr. G. M. Woodrow, Superintendent Botanical Garden, Poona.] The moderate climate and fertile soil of the Poona district offer every inducement to gardening. Yet the area under gardens is not large. Of late near Poona the best garden soil to a great extent has been given to the less troublesome and very profitable cultivation of sugarcane. This land will probably remain under sugarcane until it is exhausted of soluble silicates when it will doubtless be given to garden crops until it is again fit to bear sugarcane. The best garden soil is a dark brown friable loam lying on loose open trap rock. In such positions, if walls have been built to keep the soil over three feet deep, and water is available, it bears excellent crops of cabbage, cauliflower, beet, cucumber, radish, spinach of several kinds, and other nutritious vegetables, and custard apples, pomegranates, oranges, guavas, mangoes, plantains, and other fruit. Another very similar soil is found on river banks. This is also a dark-yellow or brown loam but its particles are finer and in consequence it is sometimes apt to hold too much water and to stick in hard lumps. Its situation makes it liable to floods, and it contains a very small proportion of lime. Still on the whole it is an admirable soil, specially suited for *popai* and plantain trees and flowering shrubs, and if it is some height above Hood level is excellent for orange and mango trees. The black soil overlying open calcareous marl is also a valuable garden soil. With liberal manuring and watering it bears first-rate vegetables and flowers, but is less suited to fruit trees as they are apt to run to wood.

In preparing the soil even in market gardens the native plough is the favourite tool. When drawn by four pairs of willing oxen, and when the furrows cross and recross and pass as deep as fifteen inches below the surface, the native plough is remarkably efficient. Though it is costly to work it can be used during many days on which European and American ploughs must remain idle. A stout hoe, or *pavde* and a small weeding-hook or *khurpe* almost complete the list of market garden tools; while in ornamental grounds the pick, rake, Dutch hoe, pruning shears, budding knife, watering pot, syringe, lawn-mowing machine, and other tools may be seen in use. The spade is seldom employed. The soil is so sticky when wet and so hard when dry, that the spade cannot often be used with advantage. In watering a garden plot the

ground is laid out in ridges about fifteen inches apart and ten inches high, and the hollow between is flooded. The ground is also arranged in flat beds about ten feet by ten feet divided by one ridge or by a pair of ridges. The pair of ridges forms a water channel; and the single ridge separates one line of beds from the next line. The quantity of water given weekly averages in dry weather eighty tons the acre to plantains; sixty tons to cabbage, cauliflower, and other quick-growing garden crops; and forty tons to rose trees and similar crops. According to the age of the plant and the nature of the soil five to fifteen days pass between the waterings.

The chief garden manure is the ashes of cowdung cakes mixed with goat's dung and vegetable refuse. When kept in a pit so that it may be moist and yet not have its soluble constituents washed away by rain, this is an excellent manure and is applied to all garden crops.

Poudrette prepared by mixing fresh nightsoil with dry cowdung and wood-ashes has of late come into general use. It is specially suited for quick-growing leaf or root crops such as cabbage, cauliflower, potatoes, plantains, and sugarcane, and for maize and flowering plants which require regular watering. Cowdung mixed with vegetable refuse which has been kept moist until it is well decayed is perhaps the safest and most generally useful garden manure. If the cattle are fed with oil-cake or grain it is particularly rich; in any case it is safe and gentle and can be used without fear of ill effects. Dried fish and castor-oil cake are also used for garden crops of rapid growth and are especially profitable when applied to cabbage, cauliflower, beet, and sugarcane.

The best seed-sowing season is about the end of June; the heavy rains with which the south-west monsoon bursts are over, and the air is cooled to a temperate warmth. At this season green fly and other insect pests abound, and so much care is required to protect young cabbage and cauliflower plants that their sowing is generally put off till August or September. Beans, beet, brinjals, carrots, celery, cress, knol-kohl, lettuces, mustard, onions, parsley, peas, radishes, spinach, and tomatoes among vegetables; and asters, balsams, convolvulus, nasturtium, pinks, phlox, and many other flower seeds, and the seeds of all local trees or trees belonging to districts with a similar climate may be sown about the end of June and repeated at intervals for succession up to September. In the hot air of October good seed often fails. November and December are the proper seasons for sowing lucerne and asparagus, for planting potatoes, and most of the vegetables and flowers in the previous list; also for larkspur and mignonette. In February and March several kinds of melons are sown in river-beds where water is near the surface. In April, early crops of

beet, celery, cucumbers, knol-kohl, lettuce, spinach, and tomato are sown. In sowing at this season great care must be taken to provide proper shade and moisture. If complete shelter from the impending burst of the south-west rains is available the April sowings may be repeated in May and annual flower seeds be sown in pots in moist shady places. Sweet-smelling flowers are grown to a large extent in market gardens. Among the commonest kinds are roses, jessamines called *jai* and *mogra*, the tuberose called *gulchhabbu*, chrysanthemums or *shevtis*, and oleanders or *kaners*. In rearing these flowers the chief rule is to keep the plant growing. With this object, as soon as one crop of flowers is gathered, the plants are pruned to within a few buds of the old wood, manure is dug in between the plants, and if the weather is dry the ground is watered. By this treatment three crops of flowers are raised in the year, but the plants soon grow weakly and have to be replaced, and the flowers are small, *Michelia champaca son chapha*, *Plumieria acuminata chapha*, *Tagetes Marigold jhendu*, *Canna indica kardali*, and *Pandanus odoratissimus kevda* are also grown as market flowers. The list of vegetables includes nearly all the chief kinds known in Europe. Several fine spinaches are raised from *pokla* *Amaranthus*, *palak* *Chenopodium*, *methi* *Fcenumgraecum*, and *ambadi* *Hibiscus cannabinus*. A large white radish or *mula* is grown for its roots, and the pods of the *bhendi* *Hibiscus esculentus* are a favourite crop. The chief fruit trees are the custard apple, pomegranate, fig, grape, mango, *jambhul*, *bor*, and orange. The betel-leaf *pan* *Piper betel* is also grown in large quantities.

Among the commonest ornamental plants are allamanda, alocasia, beaumontia, begonia, bignonia, bougainvillea, caladium, convolvulus, cupresses, ferns, geranium, gesnera, hibiscus, nelumbium, nymphaea, palms, poivrea, quisqualis, rose, and tabernoemontana.

The art of grafting by buds called *handi*, and grafting by enarching or *kalam* are practised to a limited extent. The better kinds of rose, orange, pomelo, and *bor* may be budded at any time during the rainy or cold season if the sap is flowing freely. Enarching or grafting by approach is employed to propagate the finer kinds of mango, guava, and *bor*. The true graft, that is uniting a branch entirely removed from its parent tree on to a separate tree, is occasionally practised during November, to improve mango trees.

The use of the pruning knife is well understood. In pruning the rule followed in most cases is to cut back the shoot that has borne flowers or fruit to within a few buds from the base, and to remove weakly and decaying branches. Flowering shrubs of all kinds, the vine, and the fig

tree are regularly pruned by cutting back the branches which have fruited. Other fruit trees are kept free from unsound wood.

The moving of small plants which can be guarded from strong wind and from the sun is carried on during the rainy season with success. To move large shrubs or trees the best time of the year is between November and January. In spite of the dryness of the cold season large trees can be moved more easily in Poona than in Europe.

CROPS.

The following are the chief details of the leading local field and garden crops. [The following interesting statement was prepared by Captain Robertson, the first Collector of Poona in 1821. It shows the chief products of the district, the proportion each bore to the whole outturn, and the times of sowing and reaping:]

POONA CROPS, 1821.

Pro- portion.	NAME.	Sown.	Reaped.
3/16	<i>Udid</i>	May-June Bo.	August - September,
1/3	<i>Mug</i>	Do.	Do
1/16	<i>Matki</i>	Do.	Do.
3/4	<i>Rala</i>	Do.	Do.
3/4	<i>Sava</i>	Do.	Do.
23½	<i>Jvari</i>	June-July	October.
5½	<i>TUR</i>	Do.	Do.
27½	<i>Bajri</i>	Do.	Do.
4	Rice	Do.	October - November.
1	<i>Nachni</i> or <i>Nagli</i>	Do.	Do.
1	<i>Til</i>	Do.	September - October.
1/2	<i>Bhadli</i>	Do.	Do.

1/2	<i>Van</i>	Do.	Do.
1	<i>Bhuimug</i>	Do.	December.
14	Wheat	September- October	February -March.
11½	Gram	Do	Do.
1/2	<i>Vatan</i>	October - November	Do.
1/4	<i>Masur</i>	Do	Do.
3	<i>Math</i>	June-July	November.
3/4	<i>Hulga</i> or <i>Kulith</i>	Do.	Do.
1	Sugarcane	June and January	After twelve months.
1/4	Sweet Potatoes	All the year	After five months.
1/4	Oniurns and Garlic	January and August	April and December.
1/8	Chillies	June-July	January - February.
1/16	Butel Leaves	July-August	July- August.
1/8	<i>Kaduval</i>	April-May	July-August.
1/16	Carrots	October - November	January - February.
18	<i>Kautti</i>	May-June	September - October.
1/16	Barley	October - November	February - March.
1/16	Tobacco	June	November - December.
1½	<i>Chavli, Ambadi, Kardai,</i>	--	--
	<i>Pavte, Alshi, Cotton.</i>		
100			

East India Papers, IV. 575.

Of cereals there are thirteen:

POONA CEREALS.

No.	MARA'THI.	ENGLISH.	BOTANICAL.
1	<i>Bajri</i>	Spiked millet	<i>Penicillaria spicata.</i>
2	<i>Barti</i>	--	<i>Paspalum scrobiculatum.</i>
3	<i>Bhadli</i>	--	<i>Panicum pilosum.</i>
4	<i>Bhat</i>	Rice	<i>Oryza sativa.</i>
6	<i>Gahu</i>	Wheat	<i>Triticum aestivum.</i>
6	<i>Harik or Kodru,</i>	--	<i>Paspalum frumentaceum.</i>
7	<i>Jvari</i>	Indian millet	<i>Sorghum vulgare.</i>
8	<i>Makka</i>	Indian corn or maize	<i>Zea mays.</i>
9	<i>Nagli or Nachni</i>	--	<i>Eleusine corocana.</i>
10	<i>Rala</i>	--	<i>Panicum italicum.</i>
11	<i>Satu or Jav</i>	Barley	<i>Hordeum hexastichon.</i>
12	<i>Sava</i>	--	<i>Panicum miliaceum.</i>
13	<i>Vari</i>	--	<i>Panicum miliare.</i>

1. *Bajri*, Spiked Millet, *Penicillaria spicata*, in 1881-82 covered 557,807 acres, 116,306 acres of them in Sirur, 108,599 in Junnar, 107,856 in Khed, 82,159 in Bhimthadi, 81,283 in Haveli, 32,840 in Purandhar, 24,136 in Indapur, and 4648 in Maval. *Bajri* with *jvari* is the staple crop of the district. It is grown all over the district but in small quantities in the hilly west of Junnar, Khed, Maval, and Haveli. It is a finer grain than *jvari* and requires more careful tillage. There are three varieties of *bajri* which can hardly be distinguished except by the initiated, *gari* or early, an inferior variety maturing in three and a half months; *hali* or late, a finer variety taking longer to mature; and *sajguri*, a quickly maturing variety with a smaller grain and grown chiefly under water. *Bajri* is sown in June or July usually in shallow black or light gravelly soils mixed with *rala* a coarse grain, *math* a

pulse, *ambadi* hemp, *til* sesamum, and *tur* a pulse. These grains are mixed in the following proportions: *bajri* 32, *rala* , *math* 4, *ambadi* 2, *til* 1, and *tur* 4. In rich soils *tur* is commonly sown in alternate rows with *bajri* and in poor soils a small legume called *hulga* or *kulith* *Dolichos biflorus* is always sown. A brown mould partly of red and partly of black soil is considered best for the growth of *bajri*. Two to two and a half pounds of the mixed seed is sown to the acre, the better the soil the less the seed. *Bajri* is seldom watered or manured. It depends less on the soil and more on the rain than *jvari*. It never yields so large a crop as *jvari* and where both can grow *jvari* is always chosen. *Bajri* wants more ploughing, manuring, and weeding than *jvari*. When the crop is four or five inches high the weeds and grass are cleared. A timely fall in August favours the growth of *bajri*, but, especially in shallow soils, too much rain settles at the roots and rots the stalks. *Bajri* is harvested in October and November, and from mid-October to mid-February the crops grown with it ripen, first the panic *rala*, then the pulse *math*, then the hemp *ambadi*, then the sesamum *til*, and last the pulse *tur*. The average yield of *bajri* on different unwatered soils in good and bad years is 300 to 400 pounds. The green ears are parched and eaten under the name of *limbur* or *nimbur*. The ripe grain is sometimes parched and made into *lahis*. *Bajri* is chiefly used as a bread grain, being kneaded with salt into round cakes about five inches across and half an inch thick. It is not liked by the working classes, but is the favourite food of the upper classes especially of the people of Poona. The stalks called *sarmad* are given to cattle, but unless trodden into chaff are held inferior to almost all other fodder.

2. *Barti* commonly *barti*, [*Barti* is said by Colonel Sykes to be the same as *kodru* or *harik* *Paspalum frumentaceum*. Inquiry in different parts of the Deccan satisfied Mr. Fletcher that the two are different.] *Paspalum scrobiculatum* or *flavidum*, is grown almost entirely in the east of the district, usually in separate furrows in fields of *bajri*. It is sown in June and July, and, without water or manure, ripens in October. The grain, which is white and round, is about the size of *bajri*, and grows on crooked finger-like side shoots which stand out at distinct intervals from the main stem of the ear. The grain has to be pounded to separate the husk, and is usually boiled and eaten like rice. It is much esteemed by the poor and is said to be most wholesome.

3. *Bhadli*, *Panicum pilosum*, is grown almost entirely in the east of the district and usually in the same fields as *bajri*. It is sown in June, and, without water or manure is reaped in October or November. *Bhadli* is much like red *rala* and is sometimes confounded with it. It is larger,

grows well in poorer soil, and the ripe ear is reddish brown and bristly, while the ripe *rala* is smooth and of a pale yellow. The grain is unhusked by pounding. It is eaten by the poor, chiefly in the east. It is sometimes boiled and eaten whole, and more rarely ground to flour. The straw is used as fodder.

4. *Bhat*, [The Marathi names of rice in its various stages are the seed *bhat*, the seedlings *rop*, the plants *avan*, the planted rice *bhat*, the husked seed *tandul*, the straw *pendha* or *bhate*, and the husk to which the grain clings *konda*] Rice, *Oryza sativa*, in 1881-82 covered 47,885 acres, 21,104 of them in Haveli, 14,990 in Maval, 5998 in Khed, 4169 in Junnar, 1489 in Purandhar, 102 in Indapur, and 33 in Bhimthadi. It is the chief product of the west lands or Mavals, and is sometimes found in moist places in the eastern plain. About eleven kinds of rice are grown in the Poona district. One kind, *kamod*, the best rice in the district was brought by Dr. Gibson from Kaira in 1842. It is grown as a channel-watered crop. Four kinds, *ambemohar*, *kale*, *raybag*, and *rajaval*, are sown in late May in manured seed-beds, planted into wet fields in July-August, and reaped in late October. Five poor sorts, *chimansal*, *dodke*, *kolambe*, *kothimbare*, and *varangal*, are generally sown broadcast or by drill in poor rice-fields or on high-lying ground in June and reaped in September, [Bom. Gov. Rev. Rec. 1453 of 1843, 79.] Much the greater part of the Poona rice is grown under the planting system. In March or April a plot is chosen for the seed-bed either in the rice field itself or on higher ground close to the field and ploughed once and levelled. Cowdung, grass, and leaves are spread on the ground, a second layer is added of branches and brushwood covered with grass, and fine earth is sprinkled over all. These layers of cowdung, brushwood, and grass are called *rab*. [The chief difference between *rab* and *dalhi*, the two forms of wood-ash tillage, is that in *dalhi* the bushes are burnt where they grow and in *rab* they are brought from somewhere else.] In early May the brushwood is fired on the leeward side to ensure slow and thorough burning and the ashes remain guarded from the wind by the upper layer of earth. After the first rain in June the seed is sown broadcast and covered by the hand-hoe or *kudal*. In July, when five or six inches high, the seedlings are pulled up, tied in small bundles, and taken and planted by hand in the rice-field in bundles of four to six plants. This planting is expensive. To plant about 110 acres (150 *bighas*) is a day's work for 150 men. The planting of rice takes longer than the planting of *nachni* and *van* as in the case of these coarser and hardier grains it is enough to throw the plants on the ground. Rice fields, which are called *khachars* in Marathi, are formed by throwing earthen banks across the beds of water-courses or lines of drainage, by holding back the muddy deposit, and

controlling the supply of water which during the rainy months comes from the higher lands. The best rice soil is a bright yellow deepening to black as the quality declines. At the same time the yield of rice depends as much on the plentiful and constant supply of water as on the character of the soil. Once in two or three years, to prevent their silting, rice-fields are three or four times ploughed in opposite directions. The clods are broken with the *kulav* and the *petari* is then used to clear the loose soil out of the bottom of the field, and heap it on the bank. In June and early July while the seedlings are getting ready for planting, the flooded rice-field is ploughed and trodden by oxen into a mass of soft slushy mud. Fifteen days after planting, when the seedlings have begun to shoot, their dead leaves are plucked off by the hand. As the planting is usually done during pouring rain and in deep mud the head and back of the planter are always shaded by a water-tight shell made of wicker-work and teak leaves called *virle* or *panghongadi*, and a stool or *tivas*, whose seat and bottom are two parallel planks separated by a single leg of wood, is used to sit on. After the planting is over the water is kept standing in the field at a certain depth till the crop ripens when it is allowed to dry. Between September and November planted rice is reaped with the sickle or *vila* and carried as cut and laid on the bank lest the ripe grain should be injured by lying on the wet ground. In eight or nine days a man and his wife can cut about four acres (5 *bighas*) of rice. As the whole crop should be carried and stacked before the grain dries labourers have to be hired to carry the sheaves to the thrashing-floor. To separate the husk from the grain rice has to be pounded or ground. Except where it is grown rice is eaten by the poor on feast days only; it enters into the daily food of all the middle and upper classes, whether Hindus or Musalmans. It is most commonly simply boiled; it is also eaten parched as *lahis* and *pohas* and *murmuras*. [To make *pohas* the husked rice is soaked in cold water for three days, scalded, and left to drain dry in an open basket. It is then slightly parched and pounded in a stone mortar. The crushed pulp forms into flat lozenge-shaped pieces and the husk is separated by a winnowing fan. *Pohas* are sometimes ground to flour and used in sweetmeats. For *murmuras* the husked rice is partially dried in the sun after a three days' soaking and scalding. It is slightly parched and the husk separated by braying in a mortar. Salt water is next thrown over it and the grain is again parched in hot sand which makes it puff and swell.] These are most useful as ready-cooked food for a journey and are generally given along with *dale* or parched gram pulse as rations to Hindu soldiers on a sea voyage. The flour is also used in various preparations; the straw or *pendha* is used as cattle fodder.

5. *Gahu*, Wheat, *Triticum aestivum*, in 1881-82 covered (60,524 acres 21,677 of them in Junnar, 9537 in Maval, 8688 in Bhimthadi, 8205 in Khed, 4919 in Sirur, 3503 in Haveli, 2983 in Indapur, and 1012 in Purandhar. Wheat is a late or cold-weather (October-March) crop. It is grown over the whole district but in small quantities in the west lands of Junnar, Khed, and Haveli. It requires a moister climate than *jvari* and in the eastern fringe of the west lands is generally grown as a dry-crop. Elsewhere it is grown as a dry-crop only in favoured places, but over the whole eastern plain it is largely grown as watered crop. Wheat wants black or rich soil. The best soil is the alluvial loam known as *gavhali* or the wheat land. Wheat also thrives in the lowlying black or better brown clay soils in low lands where drainage gathers. Four kinds of wheat are grown, *bakshi*, *kate*, *khaple* also called *jod*, and *pote* that is big-bellied. [In 1842 Dr. Gibson is said to have introduced about thirty-eight choice varieties of wheat. Bom. Gov. Rev. Rec, 1453 of 1843, 79.] *Bakshi* requires good black soil. It is sown in October or November, is usually watered and manured, and is reaped in February or March. This wheat is of the finest quality, but as it is delicate it is not largely grown. The stem is sometimes as much as five feet high, the grain is larger than the grain of other kinds of wheat, and the beard, when ripe, is tipped with black. *Kate* wheat is sown in good black soil in October, is usually watered but not manured, and is reaped in February. It is shorter-stalked and smaller-grained than either the *bakshi* or *khaple*, is hardier than the *bakshi*, and is the wheat commonly grown in dry lands. *Khaple* or *job*, husk wheat, is sown in black soil in November, is always both watered and manured, and is reaped in March. *Khaple* is the wheat usually grown in gardens. It is very hardy. It owes its name to the fact that the grain cannot be separated from the husk without pounding. It is sown as a second or *dusota* crop in January and February in irrigated lands after *bajri*, maize, tobacco, chillies, or wheat with good results. *Pote* or big-bellied wheat is less esteemed than other varieties. It is sown in poor black soils in November, is neither watered nor manured, and is reaped in February. Other varieties known in the district are *daudkhani* and *kale-kusal*. Two and a half to three and a half pounds of wheat are sown to the acre, the better the soil the less the seed. The average acre yield from all kinds of wheat in unwatered land is 500 to 600 pounds and in watered land 1000 to 1100 pounds. In garden land wheat follows rice and in dry-crop land it comes best after *bajri*, maize, tobacco, or chillies. After two or three ploughings the wheat is sown and the land is levelled with the harrow. When the seed has begun to sprout, to regulate the watering, ridges and small water-courses are made with a large rake in the shape of squares or *vaphas*. Wheat after it has come into ear is affected by mildew called *tambera* and *garva* or *khaira*.

These diseases are said to be commoner in fields where mustard is grown than elsewhere. *Tambera* appears after unseasonable and heavy rain and covers the crop with small swellings containing a reddish powder. It very seriously injures if it does not totally destroy the crop. *Garva* or *khaira* appears after cloudy and misty weather in circles at distances from each other. It covers the crop with small swellings containing a dark brown powder. The grain becomes small and shrivelled. *Garva*, is neither so common nor so destructive as *tambera*. Green wheat ears called *ombya* are parched and eaten. The ripe grain is used only as bread. It is seldom eaten by the poor except on feast days as it is never eaten without the addition of clarified butter or *tup*. The flour is used largely in pastry and sweetmeats. Wheat straw is eaten as fodder with or without a mixture of chaff.

6. *Harik* or *Kodru*, *Paspalum frumentaceum*, in 1881-82 covered 397 acres in Junnar. It is grown almost entirely in the western hill-sides and light soils. It is sown in June and reaped in October or November. The grain, which is round and flattish and of the size of a mustard seed, forms in double rows on one side of a flat stem, and until ripe the ear remains enveloped in a sheath. New *harik* is said to be powerfully narcotic and is eaten only by the poor who prepare it in various ways, and from use are able to eat it with impunity. [Mr. Sinclair, C. S., found that in Thana the grain was intoxicating when grown for the second or third time in the same land. Fletcher's Deccan Agriculture.] The straw is hurtful to cattle.

7. *Jvari*, Indian Millet, *Sorghum vulgare*, the most largely grown cereal in Poona, in 1881-82 covered 588,502 acres, 226,152 of which were in Haveli, 129,069 in Indapur, 73,026 in Purandhar, 53,239 in Sirur, 54,877 in Bhimthadi, 28,782 in Khed, 16,438 in Junnar, and 2918 in Maval. It is grown over the whole district but in the hilly west of Junnar, Khed, Maval, and Haveli only in small quantities. It is the staple grain of the eastern plain. There are many varieties of Indian millet some of which belong to the early and others to the late harvest. The early varieties are found only in the belt which fringes the east of the western districts, and are sown thickly for fodder rather than grain. The late varieties are grown in the eastern plain, yield grain plentifully, and their fodder though less abundant is of better quality than that of the early varieties. There are three chief early varieties *argadi*, *kalbhondi*, and *nilva*. *Argadi*, also called *utavli*, is sown in June or July in shallow black or light soil, and, without the help of water or as a rule of manure, is grown and cut in November. The stalk is sometimes ten feet high; the head is small. This variety is also sown as a watered crop in April and matures in June or July. When

grown as a watered crop it is called *khondi* or *hundi*. [*Khondi* or *hundi* is described as a separate variety by Colonel Sykes.] This crop is sometimes sown broadcast and thick and cut for fodder before the head appears. *Kalbhondi*, that is black husk, is sown in June or July without either water or manure, and is harvested in November. The stem is six or eight feet high and the head large. *Nilva*, that is blue-husk, a variety much grown in Khandesh, is sown in June in black soils without either water or manure and is cut in November. The stem is very tall and coarse and the head large. The fodder is prized for milch cattle. There are three late varieties of Indian millet *shalu*, *dudh-mogra*, and *tambdi*. The best of the late kinds is *shalu*. It is sown in black soils from mid-August to mid-October and harvested from mid-January to mid-February. The stalk is three to five feet long and sweet-juiced, and the grain white. *Dudh-mogra* is sown with *shalu* either mixed in the same furrow or in separate furrows. The straight hard stalk is poor fodder and the scattered feather head has the merit of being too light to give birds a foothold. The full milky grain parches into excellent *lahis*. A dark-husked variety of *dudh-mogra* has a stem which is sometimes used as a weaver's hand-rod. *Tambdi*, that is red, Marshall's *Sorghum devia*, is sown generally in light soils in late July and early August, and, without either water or manure, ripens in early January to early February. The stem is three to four feet high and poor as fodder, and the grain is white and hard. Four to five pounds of late *jvari* are sown to the acre, the better the soil the less the seed. The early Indian millets take eight to ten pounds of seed an acre. Unwatered *jvari* in all kinds of soil gives an average yield of 400 to 500 pounds the acre, and watered *jvari* yields 1000 to 1200 pounds. *Shalu* is the most productive variety sometimes yielding as much as 2500 pounds the acre. Before the head forms the plant is called *kadval* and when perfect *batuk*. [*Batuk* is also applied to the plants of *tur* sown in a crop of *bajri*.] *Jvari* is the only cereal whose straw or *kadba* is used as fodder in its natural state. The straw of all other cereals and of all soft stemmed pulses is trodden to pieces, mixed with chaff, and stowed in large baskets, and is called *bhuskat*. *Jvari* stalks are stacked and thatched in the rainy west; in the drier east they are stowed in long grave-like ridges and covered with clods of black soil. The grain is chiefly used as a bread grain, but is also eaten parched as *lahi*. When in season the parched unripe *jvari* heads form a chief item of food with the labouring classes and are called *kurda*.

8. *Makka*, Indian Corn, *Zea mays*, in 1881-82 covered 3844 acres, 2435 of which were in Purandhar, 720 in Bhimthadi, 630 in Indapur, fifty in Haveli, and nine in Sirur. In 1842 the American maize was naturalised at the experimental garden at Hivra in Junnar. [Bombay

Gov. Rev. Rec. 1453 of 1843, 77.] It is sown in the eastern sub-divisions in black soil. When unwatered it is sown in June and ripens in August; when watered it may be grown at any season. The heads or *butas* are usually eaten parched or boiled while green and the ripe grain is also parched and made into *lahis*, and after grinding is used as flour. The stalk is a very coarse fodder.

9. *Nagli* or *Nachni*, Eleusine corocana, in 1881-82 covered 52,365 acres, 16,310 of which were in Khed, 14,036 in Maval, 12,572 in Haveli, 6983 in Junnar, and 2464 in Purandhar. It is grown only in the hilly west sometimes in wet lands by planting like rice or by sowing with the drill, and often in high lands. In planting *nachni* the seedlings are simply thrown on the ground in little trenches at about equal distances apart and left to root as they can. *Nachni* does not want a deep or a rich soil, but in any but a moist soil it perishes. It is sown in June and ripens in October or November. As the Stalk is hard, reaping is difficult and costly. It takes four persons eight days to cut about three acres (2 *bighas*) of *nachni*. The carrying and stacking are also expensive. *Nachni* should be carried as soon as possible after the crop is cut, and the sheaves should be carried only in the morning when the heads are wet with dew. Later in the day the heat of the sun shrivels the husk and loosens the seed. Under the name of *hurda* the green heads are parched and eaten. The ripe grain is eaten in cakes by the west country poor and the flour is made into a cooling drink called *ambil*. The straw, powdered and mixed with chaff, is used as fodder.

10. *Rala*, Panicum italicum, in 1881-82 covered 1084 acres, 681 of which were in Purandhar, 136 in Bhimthadi, 113 in Haveli, eighty-one in Indapur, sixty-eight in Sirur, and one in Junnar. It is grown chiefly in the east of the district in shallow black or light, soils usually in the same fields as *bajri*. It is of two varieties, a red and a white, which differ only in colour. It is sown in June and ripens in October. The grain is separated from the husk by pounding and is usually boiled and eaten whole. The stalk is used for fodder and thatch.

11. *Satu*, or *Jav*, Barley, Hordenm hexastichon, in 1881-82 covered 141 acres fifty-one of which are in Bhimthadi, fifty in Haveli, twenty in Purandhar, fourteen in Indapur, and six in Junnar. It grows only in black soil, is sown in November, and, with the help of water and manure, is reaped in February. Barley is chiefly used in making the ready-cooked food called *satuche-pith* or barley flour. The grain is parched, ground, and mixed with a small proportion of gram and wheat-flour and flavoured with seeds. When eaten it is usually made into little dough balls with water. The grain is also used in the

shraddha or mind-rites for the dead and the flour in the *shravani* or Shravan purification.

12 and 13. *Sava*, *Panicum miliaceum*, and *Vari'*, *Panicum miliare*, in 1881-82 covered 32,342 acres, 11,163 of which were in Khed, 8282 in Haveli, 7885 in Maval, 4317 in Junnar, and 689 in Purandhar. They are grown only in the west of the district usually in light red soils and on hill-sides. They are not watered or manured, but the seedlings are planted like rice-seedlings except that instead of fixing them in the ground they are simply thrown on the surface and left to root. When the plants are about a foot high *sava* requires weeding. This is done for each other by the villagers at no expense except some liquor for the weeders. In 1821, in these weeding parties a drummer was at hand who beat incessantly and at intervals stirred on the weeders calling out *Bhalere Dada*, *Bhale Bhau Dada*, Well done brothers, well done. The weeders got as much spirit as they could drink. [Captain H. Robertson in East India Papers, IV. 579.] From the hardness of the stalks and the need of prompt and early-morning carrying, labour has to be hired in harvesting *sava* and *vari* as well as in harvesting *nachni*. Both *sava* and *vari* have to be unhusked by pounding. They are mostly eaten by the west country poor. They are boiled like rice and are sometimes ground to flour and made into bread. The straw is not used as fodder.

Pulses

Thirteen pulses are grown in Poona. The details are:

POONA PULSES.

NO.	MARATHI.	ENGLISH.	BOTANICAL.
14	<i>Dang Chavli</i>	--	<i>Dolichos sinensis</i> .
15	<i>Harbhara</i>	Gram	<i>Cicer arietinum</i>
16	<i>Kulthi</i> or <i>Hulga</i>	--	<i>Dolichos biflorus</i> .
17	<i>Lakh</i>	--	<i>Lathyrus sativus</i> .
18	<i>Masur</i>	Lentils	<i>Ervum lens</i> .
19	<i>Math</i> or <i>Matki</i>	Kidney Bean	<i>Phaseolus aconitifolius</i> .
20	<i>Mug</i>	Green Gram	<i>Phaseolus mungo</i> .
21	<i>Pavta</i>	--	<i>Dolichos lablab</i> .

22	<i>Ran or Shet Chavli .</i>	--	Dolich03 catjang.
23	<i>Tur</i>	Pigeon Pea	Cajanus indicus.
24	<i>Udid</i>	Black Gram	Phaseolus radiatus.
25	<i>Val</i>	--	Dolichos spicatus.
26	<i>Vatana</i>	Peas	Pisum sativum.

14. *Dang Chavli*, *Dolichos sinensis*, like but larger than *ran* or *shet chavli* *Dolichos catjang* (No. 22), is usually grown in gardens round the edge of other crops. It is a strong climber, with a pod some five or six inches long, and a rather dark seed.

15. *Harbhara*, Gram, *Cicer arietinum*, the most largely grown pulse in Poona, in 1881-82 covered 28,879 acres, 6398 of which were in Bhimthadi, 5020 in Indapur, 4770 in Junnar, 4329 in Khed, 2678 in Maval, 2360 in Sirur, 1620 in Purandhar, and 1404 in Haveli. It is grown in the east of the district and very rarely in the west. It requires good black soil. It is sown in November and without either water or manure is harvested in February. The leaves are used as a vegetable. The grain is eaten green, is boiled as a vegetable, and is parched when it is called *hola*. When ripe it is split into *dal* and eaten boiled in a variety of ways and in making a sweet cake called *puran-poli*. It is slightly soaked, parched in hot sand, and called *phutanas*, which are sometimes flavoured with turmeric salt and chillies. It is also given to horses. The living plants yield a quantity of vinegar or oxalic acid called *amb* which gathers on the plants at night, and soaks cloths which are laid over them. The dry stalks are good fodder. A light-coloured variety called *kali* is seldom grown in Poona.

16. *Kulthi*, Horse-gram, *Dolichos biflorus*, in 1881-82 covered 13,065 acres, 4056 of which were in Khed, 2934 in Bhimthadi, 2220 in Junnar, 2158 in Purandhar, 942 in Sirur, 645 in Indapur, and 110 in Haveli. It is grown throughout the district and is sown generally with *bajri* in separate rows in shallow light soil. It is sown in June and ripens in November without either water or manure. The pulse is boiled whole and is given to horses, it is also eaten in soap and porridge. The leaves and stalks are good fodder.

17. *Lakh*, *Lathyrus sativus*, is grown in small quantities in the west. It is sown in November or December in black soil or as a second crop after rice. It grows without water or manure. The peed is like a mottled gray pea. It is not eaten while green. The ripe pulse is boiled

whole and eaten, and when split is cooked in various ways. The stalk and leaves are eaten by cattle.

18. *Masur*, Lentils, *Ervum lens*, in 1881-82 covered 836 acres, 440 of which were in Maval, 302 in Khed, and ninety-four in Junnar. It is grown throughout the district. It is sown in November or December in black soil or as a second crop on rice lands, grows with-out water or manure, and is harvested in February and March. The green pods are sometimes eaten as a vegetable, and when ripe it yields the most delicate split pulse in the Deccan. The boiled pulse is also eaten whole.

19. *Math* or *Matki*, *Phaseolus aconitifolius*, grown chiefly in the eastern plain, is sown mixed with *bajri* in shallow black or light stony soils in June or July and is harvested in November. The pulse is split and eaten as *dal* in different ways. It is ground to flour and used with the flour of other grains in making cakes. It is also eaten parched or boiled whole with condiments. The grain is given to horses and cattle and the stalks are good fodder.

20. *Mug*, Green Gram, *Phaseolus mungo*, in 1881-82 covered 3900 acres, 2349 acres of which were in Khed, 687 in Junnar, 351 in Bhimthadi, 250 in Purandhar, 226 in Haveli, thirty-one in Indapur, five in Sirur, and twenty-one in Maval. It is grown chiefly in the east of the district. It is sown in June by itself in shallow, black, or light stony soils, and often as a first crop on rich lands in which a second called *dusota* or *bivad* crop is raised. It is neither watered nor manured, and is harvested in September. The green pods are eaten as a vegetable. The ripe green-coloured pulse is eaten boiled whole, or is split and used as *dal*. It is parched, ground to flour, mixed with butter and made into spice balls. It is also made into porridge. The leaves and stalks are good fodder. *Mugi*, a smaller blackish variety, is sown with *bajri* or *argadi* in June and reaped in November. It is inclined to creep and remains longer on the ground than *mug*.

21. *Pavta*, also called Sweet *Val*, *Dolichos lablab*, is sown some-times in June mixed with *bajri* and sometimes in November on the banks of rivers or in the west as a second crop after rice. Two varieties differ only in the colour of the grain, one is pale yellow the other black with a fine seam. It grows without water or manure, ripens in February-March, and goes on bearing for about two months. The boiled green seeds are eaten as a vegetable and the ripe pulse is split and eaten in many ways. The leaves and stalks are a fodder which is especially valued for milch cattle.

22. *Ran* or *Shet Chavli*, *Dolichos catjang*, is grown chiefly in the west lands. It is sown in June in shallow light soils and as the first of a double crop in rich soils. It grows without water or manure, and is harvested in September. The green pods which are about two inches long and the leaves are eaten as vegetables, and the pulse, which is pale yellow oval and dented on one side, is cooked in many ways, both split and whole.

23. *Tur*, *Cajanus indicus*, in 1881-82 covered 12,851 acres, 7830 acres of which were in Sirur, 1576 in Bhimthadi, 1399 in Khed, 769 in Junnar, 589 in Haveli, 356 in Indapur, 237 in Indapur, and ninety-five in Maval. It is grown chiefly in the eastern sub-divisions mostly in shallow and sometimes in deep black soils, in the same field with *bajri*, in the same or in separate furrows. It is sown in June-July, and, without water or manure, is harvested in January and February. During the eight months *tur* is on the ground, it is said to flower and seed eight times, all the pods remaining on the plant till harvest. It is a perennial plant, but is always pulled out after the first year. The green pods are eaten as a vegetable, and the ripe pulse is split and eaten boiled in a variety of ways. The yellow split-pulse or *dal* is in common use being made into porridge and mixed with vegetables, and is little less valuable than gram. The leaves and pod shells are excellent fodder, and the stem is in use for wattling house walls and roofs, and for making baskets and brooms. *Tur* or doll-bush that is *dal-bush* charcoal has long been famous for making gunpowder.

24. *Udid*, Black Gram, *Phaseolus radiatus*, in 1881-82 covered 1519 acres, 1031 of which were in Khed, 330 in Junnar, ninety in Purandhar, forty-seven in Haveli, and twenty-one in Maval. It is grown almost entirely in the east of the district. It is sown in June frequently with *bajri* or *argadi* or in rich soils when a second crop is to follow. It is neither watered nor manured, and ripens in September. The green pods are rarely used as a vegetable. The black ripe pulse is split into *dal*, and is a most fattening food. It is parched and ground to make different sorts of spice balls and is the chief element in the thin wafer-biscuits called *papads*. The stalks and leaves are a good fodder. *Udadi* is a smaller and inferior variety which does not ripen till November.

25. *Val*, *Dolichos spicatus*, is chiefly grown in the east and centre of the district, often round or mixed with garden crops, especially in the sugarcane fields where it is sown both as fodder and for shade. When grown with or in rows round *bajri* or early *jvari* it is sown in July and without water or manure ripens in four months, and continues bearing for some time longer. The seeds are slightly bitter, smaller, and not so

flat as *pavta* seeds, which is sometimes known as sweet *val*. The green seeds are eaten boiled, the ripe pulse is used in many ways as *dal* or in soup, and the stalks and leaves are prized as fodder for milch cattle.

26. *Vatana*, the Pea, *Pisum sativum*, in 1881-82 covered 836 acres, 329 of which were in Junnar, 329 in Khed, 100 in Haveli, seventy-six in Maval, and two in Indapur. Peas are grown in moist places throughout the district. They are sown in October or November or later as a second crop after rice, and, without water or manure, are harvested in four and a half months after sowing. The seed is eaten green

as a vegetable and when ripe is boiled whole or split and eaten in various ways. The leaves and stalks are good fodder.

Seven oilseeds are grown in Poona. The details are:

POONA OILSEEDS.

No.	MARATHI.	ENGLISH.	BOTANICAL.
27	<i>Ambadi</i>	Brown Hemp	<i>Hibiscus cannabinus</i> .
28	<i>Bhuimug</i>	Earth nut	<i>Arachis hypogoea</i> .
20	<i>Erandi</i>	Castor-seed	<i>Ricinus communis</i> .
30	<i>Javas</i> or <i>Alshi</i>	Linseed	<i>Linum usitatissimum</i> .
31	<i>Karle</i> or <i>Khurasni</i>	Nigerseed	<i>Verbesina sativa</i> .
32	<i>Kusumba</i> or <i>kardai</i> .	Safflower	<i>Carthamus tinctorius</i> .
33	<i>Til</i>	Sesamum	<i>Sesamum indicum</i> .

27. *Ambadi*, Brown Hemp, *Hibiscus cannabinus*, in 1881-82 covered 1375 acres, 659 of which were in Bhimthadi, 526 in Sirur, ninety-four in Indapur, eighty-nine in Purandhar, and seven in Maval. It is grown in small quantities in shallow black soils chiefly in Bhimthadi, Sirur, and Indapur. It is sown in June usually mixed with *bajri*, grows without water or manure, and is harvested in December or January. The young sour leaves are eaten as a vegetable. The seed is sometimes given to cattle and in times of scarcity is mixed in bread. It is chiefly used as oil-seed and, before the oil is extracted, is always mixed with *karle* or linseed. The bark yields a valuable fibre which is separated from the

stalk by soaking. It is made into ropes for various field purposes either by the husbandmen or village Mangs.

28. *Bhuimug*, Earthnut, *Arachis hypogaea*, is grown both in the eastern plains and in the eastern fringe of the west lands. It is planted in June, and in the east with the help of water and manure and in the western plain with the help of manure, ripens in December, but is often dug in November and eaten raw or parched. The ripe fresh nut is sometimes boiled with condiments, and eaten as a vegetable, but is more frequently used as an oilseed. An edible oil is pressed from the nuts which are usually first mixed with *kardai* or *rala* seeds as the pure earthnut oil is said not to keep. It is a favourite food with wild pig, and along the Mutha canals has suffered so severely from their ravages, that the people have given up growing it.

29. *Erandi*, Castor-seed, *Ricinus communis*, is grown in small quantities chiefly in the black soils of the eastern plain, sometimes round other crops and more often in patches by itself. It is sown either in June or November, and without water or manure is harvested in November or February. Its stem and flowers are red. The oil, which is used more for burning than as a medicine, is drawn by boiling the bruised bean and skimming the oil that rises to the surface. The proportion of oil to seed is as one to four. The leaf is applied as a guineaworm poultice and the dried root as a febrifuge. A large variety of the castor-plant, probably *R. viridis*, is grown in gardens round other crops. Its stem and flower are green. Both varieties are perennial and would grow to a considerable size if they were not taken out of the ground at the end of the first year.

30. *Javas or Alshi*, Linseed, *Linum usitatissimum*, in 1881 covered only 152 acres, seventy-seven of them in Indapur, seventy in Bhimthadi, nine in Purandhar, and three in Sirur. It is grown in small quantities solely in rich black soils in the east either in gram or wheat fields in separate furrows or less seldom as a separate crop. It is sown in November and without water or manure is harvested in February. It does not grow more than two feet high. The seed is used in making relishes or *chatnis* and the oil which is produced from the seed in the proportion of four to one is used in cookery. No use is made of the fibre.

31. *Karle or Khurasni*, Nigerseed, *Verbesina sativa*, erroneously called *kale til*, is grown in considerable quantities in shallow black and light soils chiefly in the west fringe of the plains and in the western hills. It is sown in June and without water or manure is harvested in

November. The seed is eaten in relishes or *chatnis*, but it is chiefly known for its oil which is produced from it in the proportion of live to six, and is universally used by the lower classes in cooking. The oil-cake is much prized for milch cattle.

32. *Kardai* or *Kusumba*, Safflower, *Carthamus tinctorius*, is grown chiefly in the east lands with late *jvari* or wheat either mixed or in separate furrows. It is sown in October or November, and, without water or manure, is harvested in February or March. The young leaves are eaten boiled as a vegetable and the oil which is produced from the seed is much esteemed in cooking. *Kardai* and *kusumba kardai* are grown indiscriminately. *Kardai* *C. tinctorius* has much deep red in the flower and elsewhere is used as a dye. *kusumba kardai*, probably *C. persicus*, has a yellow flower and is more prickly than *c. tinctorius*.

33. *Til*, *Sesamum indicum*, of two kinds, *gora* or *harra* white *til* and *kala* black *til*, covered in 1881-82 29,411) acres, 12,381 of which were in Khed, 5806 in Junnar, 5403 in Maval, and 4302 in Haveli. It is grown throughout the district, but in considerable quantities only in Khed, Junnar, Maval, and Haveli. It is sown in June' usually with *bajri* either mixed in the same line or in separate lines, and is cut in November. It springs unsown in fallow lands. The seed is used in *shraddha* or mind-rites for the dead, forms part of many sweetmeats, and yields abundant oil which is used both in cooking and as a medicine. The oil-cake or *pendh* is given to cattle, and in times of scarcity is eaten by the poor with salt.

Fibres.

Three fibre plants are growr in Poona. The details are:

POONA FIBRE PLANTS.

No.	MARATHI.	ENGLISH.	BOTANICAL.
34	<i>Ambadi</i>	Brown Hemp	<i>Hibiscus cannabinus</i> .
35	<i>Kapus</i>	Cotton	<i>Gossypium herbaceum</i> .
36	<i>San and Tag.</i>	Bombay Hemp	<i>Crotalaria juncea</i> .

34. *Ambadi*. See No. 27.

35. *Kapus*, Cotton, *Gossypium herbaceum*, in 1881-82 covered 4565 acres in Indapur. It is grown in black soil chiefly in the east, to a small extent in the western plain, and not at all in the hilly west. Several varieties are grown, most of which have been lately introduced. It is sown in July, is grown without water or manure, and bears in October or November. The crop, which is the woolly covering of the seed, is gathered from the growing plants in three or four pickings as the pods burst before November, when the plant ceases to bear. The seed is called *sarki* and is much prized as food for milch cattle. The stems are used in cheap basket-work and when the picking is over cattle are grazed on the leaves and shoots.

In 1821, the average price of cotton was about £8 10s. (Rs. 85) a *khandi* of 500 pounds or about 4d. ($2\frac{2}{3}$ as.) the pound. The Collector, Captain Robertson, was told that thirty or forty years before, in the time of Peshwa Madhavrav (1761-1772) a large quantity of seed had been brought from the Berars, but proved a failure. [East India Papers, IV. 590.] In 1830-31, Dr. Lush was successful in growing cotton in the botanical garden at Dapuri, about six miles west of Poona. [Chapman's Commerce, 51. See also Transactions of the Agri-Horticultural Society of Bombay, July 1843.] In 1841, the only parts of the district where cotton was grown in any quantity were in Bhimthadi and Indapur, where the soil was better suited to its growth than in any other part of the district. In that year one landholder in the Bhimthadi village of Bolvadi grew cotton, which in the Bombay market fetched a price equal to the best Broach. [Bom. Rev. Rec. 1344 of 1842, 71-72.] Dr. Gibson, the superintendent of the botanical garden at Hivra, considered the cultivation of cotton unsuited to Poona. [Bom. Rev. Rec. 1453 of 1843, 176-7.] In 1842-43 the area under cotton was increased by not less than 2132 acres, chiefly in Junnar and Indapur where the people were anxious to grow cotton. The plants thrived for a time, but most of them failed from want of rain. [Bom. Rev. Rec. 1568 of 1844, 88.] In 1844, Indapur was the only part of Poona where cotton was grown; there cotton was found in small quantities in every village mixed with *bajri* and other crops. The area under cotton was 4816 acres against 4636 in the previous year. The outturn was twenty tons (60 *khandis*) of which about sixteen tons (48 *khandis*) were sold in Poona and Satara for £507 2s. or at the rate of £5 (Rs. 50) for a Surat *khandi* of 746 pounds, that is about $1\frac{1}{2}$ d. (1 a.) a pound. [Bom. Rev. Rec. 17 of 1844, 75.] In the next two years the area under cotton declined. In 1847, Indapur was again the only cotton-growing part of the district. The quantity produced was about thirty tons (90 *khandis*) and the area under cultivation was 3359 acres against $1\frac{1}{4}$ *khandi* and 190 acres in the previous year. [Bom. Rev. Rec. 23 of 1849.] From

1841 to 1861 Government frequently tried to increase the growth of cotton, but without success. Both as regards soil and climate Poona was considered unsuited for foreign cotton and there seemed to be little prospect of any great increase of the cultivation of the local variety. The small quantity grown was almost entirely devoted to home use. The following statement shows the total area under cultivation, the area under cotton, and the area capable of producing cotton during the twenty years ending 1860-61: [Cassel's Cotton in the Bombay Presidency, 87; Dr. F. Boyle's Culture of Cotton in India, 387.]

POONA COTTON, 1841-1861.

YEAR.	Tillage Area.	Cotton Area.	Area fit for Cotton.	YEAR.	Tillage Area.	Cotton Area.	Area fit for Cotton.
	Acres.	Acres.		Acres.	Acres.		
1841-42	982,600	2684		1851-52	1,273,394	7015	
1842-43	1,009,728	1846		1852-53	1,316,767	5967	
1843-44	1,055,282	4636		1853-54	1,368,430	6712	
1844-45	1,063,127	3808		1854-55	1,395,080	4122	
1845-46	1,102,088	190	Estimated at 100,000 acres.	1855-56	1,447,006	602	Estimated at 100,000 acres.
1846-47	1,148,755	3359		1856-57	1,534,473	2534	
1847-48	1,228,304	3797		1857-58	1,566,231	2904	
1848-49	1,227,898	1693		1858-59	1,598,885	8857	
1849-50	1,196,719	4646		1859-60	1,654,399	6934	
1850-51	1,215,015	4682		1860-61	1,664,801	8730	

In 1862 the area under cotton rose to 30,049 acres in Indapur and large profits were made by the cultivators. In 1870-71 it stood at 17,072 acres. Since then, except in 1872-73, 1874-75, and 1882-83, when it stood at 10,170, 21,127, and 22,375 acres respectively, it has fluctuated between 100 acres in 1871-72 and 4565 acres in 1881-82.

36. *Tag* or *San*, *Crotalaria juncea*, grows in small quantities chiefly in the black eastern plain. It is sown in July, is grown without water or manure, and ripens in October. It is left standing for about a month after it is ripe that the leaves which are excellent manure may fall on the land. In gardens and occasionally in dry-crop lands it is grown solely for manure, the plants being ploughed into the soil when ready to flower. After it is soaked the bark yields a fibre which is considered the best material for ropes, coarse canvas, twine, and fishing nets. Almost the whole supply is used locally.

Dyes.

Four dyes are grown in Poona. The details are:

POONA DYES AND PIGMENTS.

No.	MARATHI.	ENGLISH.	BOTANICAL.
37	<i>Halad</i>	Turmeric	<i>Curcuma longa</i> .
38	<i>Kusumba</i> or <i>Kardai</i>	Safflower	<i>Carthamus tinctorius</i> .
39	<i>Shendri</i>	--	<i>Bixa orellana</i> .
40	<i>Surunji</i> or <i>A'l</i>	Indian Madder	<i>Morinda citrifolia</i> .

37. *Halad*, Turmeric, *Curcuma longa* is grown in good black soil chiefly in the central and western plain. It is planted generally in June or July from layers and with manure and a watering every eight or ten days matures in December or January. It is grown only by the class of men who are known as turmeric-gardeners or Haldya Malis. The root or *halkund* is boiled before it is sent to market. When steeped in a preparation of lime-juice, tincal and carbonate of soda or *papadkhar* it is called *rava*. This yields a brilliant crimson dye which is used in painting the Hindu brow-mark. Men paint, putting the dye on wet, rubbing the root with water on a stone and applying the crimson with the finger; women powder, rubbing a small circle of wax on the brow and pressing redpowder on the wax. The redpowder is called *kunku*, or *pinjar*. The root is in universal use as a condiment, being the staple of

curry powder. *Ambe halad*, probably *Curcuma ledoaria*, a variety of *C. longa* and grown in the same way, is used only as a drug.

38. *Kusumba*. See No. 32.

39. *Shendri*, *Bixa orellana*. is a shrub grown rarely and in small quantities in garden lands. The powder surrounding the ripe seeds yields a deep red orange dye which is the ornotto of commerce.

40. *Surungi* or *Al*, Indian Madder, *Morinda citrifolia*, is seldom seen in the west, but is largely grown in deep soils in the east. It is sown in June, often in fields overgrown with grass and weeds, and without water or manure grows for two years. In the third year the roots are dug from a depth of three feet. The roots yield a red dye.

Narcotics.

Three narcotics are found in Poona. The details are:

POONA NARCOTICS.

No.	MARATHI.	ENGLISH.	BOTANICAL.
41	<i>Ganja</i>	Hemp	<i>Canabis sativa</i> .
42	<i>Nagvel</i> or <i>Pan</i> .	Betel-leaf	<i>Piper</i> or <i>Chavica betel</i>
43	<i>Tambakhu</i>	Tobacco	<i>Nootiana tobacum</i> .

41. *Ganja* Hemp *Canabis sativa* is grown to a small extent in the best black soil in the eastern sub-divisions. It is sown in June or July, is grown with water and occasionally with manure, and is ready for cutting in December. When about two feet high the stem is twisted half round, a few inches above the root. This checks the upward growth and causes the plant to throw out side shoots. The fruit-yielding part is bruised just before the seed begins to ripen. When cut in December the plants are at once stacked and loaded with weights. The leaves fall when dry and the pods are used and known as *ganja*. The infusion made from the pods is called *bhang*. The pods or *ganja* are also smoked with or without tobacco, and several intoxicating drinks and a sweetmeat called *majum* are made. The fibre of this hemp is never used.

42. *Nagvel* or *Pan* Betel-leaf *Piper betel* is an important garden crop, especially in the Haveli villages of Kondvi Budruk, Kondvi Khurd, Undri,

Muhammadvadi, and Phursangi. It is grown in light red soil and requires much manure and constant watering. It generally lasts fifteen or if well cared for twenty years. It is grown in a betel-vine garden or *pan mala* which generally covers about an acre of ground. The vines are trained up slender *hadga*, *pangara*, *shevri*, and *bakan* trees planted in rows one to four feet apart and having leaves only at the top. The vines are grown by layers. They want water every fifth or sixth day. The whole garden has to be sheltered from wind and sun by high hedges or screens of grass or mats. Vines begin to bear in the third year, are at their best from the fourth to the thirteenth year, and, under favourable circumstances, go on yielding till the twentieth year. Every year in March, April, and May, the upper half of the vine is cut and the lower half is coiled away and buried above the root under fresh red earth and manure. Portions of the garden are thus treated in rotation, so that those first cut are ready to bear before the last are cut. A betel-leaf garden wants a considerable capital to start, and in weeding, watering, insect-killing, and leaf-picking, wants constant labour and attention throughout the year. Still it is a favourite crop. The returns from the sale of the leaves come in monthly, and the profits are greater than from any other garden crop. The betel-vine is almost always grown from well water. The people say channel-water does not suit the vine. Mr. Fletcher thinks the probable reason is that from the division of ownership it is difficult to secure a constant supply of channel water. Malis and some well-to-do castes including Brahmans rear the betel-vine, some with their own hands and some with hired labour. Tirgul Brahmans, who cultivate the betel-leaf as a specialty, are considered inferior to other Brahmans as they kill the flies that live on the vine. The betel-leaf is chewed by all classes with betelnut, quicklime, catechu, and some-times with tobacco and several spices. Several varieties are distinguished.

43. *Tambakhu* Tobacco *Nicotiana tabacum* in 1881-82 covered 817 acres, 275 of which are in Junnar, 239 in Khed, 181 in Bhimthadi, eighty-four in Sirur, and thirty-eight in Indapur. It is grown to a considerable extent in rich soils in the western fringe of the plain country and to a small extent further east. The village of Ghode in Khed has more than 200 acres under tobacco. Low and alluvial land is generally preferred. It is sown in seed-beds in August and planted in September. It is seldom watered but is generally manured. The plant is not allowed to flower. All buds and branch shoots are nipped off as they appear, and only eight or ten leaves are allowed to remain. Because the buds of the plant have to be destroyed, Kunbis seldom grow tobacco themselves, but allow it, to be grown in their lands by Mhars, Mangs, and other low castes, who give the landholder half the

produce. The plants are cut in January or February about four inches from the ground, spread in the sun till they are thoroughly dry, sprinkled with water mixed with *surad* grass or with cow's urine, and while damp closely packed in a pit or stacked under weights and covered for eight days during which fermentation sets in. When taken from the pit or stack the leaves are made into bundles and are ready for sale. Though the stumps left in the ground shoot again the leaves are almost valueless. and are used only by the poor. The quality is poor. The average acre-yield of tobacco is about 300 pounds (2.375 *mans*). The wholesale price of cured tobacco is about 2*d.* a pound (Rs. 7 the *man*) and the retail price about 3*d.* a pound (Rs. 10 a *man*). Tobacco is smoked and chewed by all classes and is made into snuff. In 182.1, according to the Collector Captain Robertson, tobacco did not thrive. It does not appear in his list of crops. [East India Papers, IV. 50.] Its cultivation was introduced before 1841. In 1841 Government forwarded to the Collector a box of Syrian tobacco seed to ascertain how it suited the soil and climate of Poona. The seed was distributed and sown in different parts of the district. Some sowings succeeded and others failed. At the Hafiz Bag, about two miles east of Junnar, Mr. Dickinson sowed it in good soil, and planted it in the usual way. When the plants were young, Mr. Dickinson thought they did not promise so well as the local plant He thought they might thrive better in the richest alluvial soil. [Bom. Rev. Rec. 1453 of 1843, 75-76.]

Eight spices are grown in Poona. The details are:

POONA SPICES AND CONDIMENTS.

No.	MARATHI.	ENGLISH.	BOTANICAL.
44	<i>A'le</i>	Ginger	<i>Zinjiber officinale.</i>
45	<i>Badishep</i>	Sweet Fennel	<i>Anethum foenicatum.</i>
46	<i>Halad</i>	Turmeric	<i>Curcuma longa.</i>
47	<i>Kothimbir</i>	Coriander	<i>Coriandrum sativum.</i>
48	<i>Mirchi</i>	Chillies	<i>Capsicum annuum.</i>
49	<i>Ova</i>	--	<i>Ptycotis a jowan</i> or <i>Lingusticum agivaen.</i>
50	<i>Shepu</i>	Fennel	<i>Anethum sowa</i> or <i>graveolus.</i>
51	<i>Us</i>	Sugarcane	<i>Saccharum officinarum.</i>

Spices.

44. *Ale* Ginger *Zingiber officinale* is grown in good black soil. It is raised from layers at any time of the year, and, with manure and water every ten or twelve days, is ready for use green in five and mature in six months. The dry root called *sunth* is eaten as a condiment and is a favorite cure for colds.

45. *Badishep* Sweet Fennel *Anethum foenicatum* is sown in gardens at any time and on the edges of dry crops in July and August. It matures in two months. The seed is eaten in curry and used as a condiment and an infusion of it is taken as a cooling drink.

46. *Halad* Turmeric *Curcuma longa* is in universal use as a condiment and forms the staple of curry powder. Details have been given under No. 37.

47. *Kothimbir* Coriander *Coriandrum sativum* is grown in small quantities in good black soil with or without water and manure in the east and centre of the district Among garden crops it is sown in any month and with *bajri* or other dry crops in July and August. The leaves are ready for use in three weeks and the seed or *dhane* in two months. The leaves and young shoots are much used as a garnish in curry and relishes and sometimes as a vegetable. The ripe seed is one of the most popular condiments.

48. *Mirchi* Chillies *Capsicum annum* in 1881-82 covered 8089 acres, 3708 acres of them in Khed, 1867 in Junnar, 1131 in Sirur, 724 in Bhimthadi, 264 in Indapur, 221 in Haveli, 140 in Purandhar, and thirty-four in Maval. It is grown in the western fringe of the plain country. It is sown in May in a manured seed plot and is planted after fifteen days or a month. It begins to bear at the end of two months more, and, if occasionally watered, goes on bearing five or six months. The plant lasts two years but is almost always pulled up after about ten months. The first yield is much the finest and is usually sent to market, the rest being kept for home use. Chillies are eaten both green and ripe by all classes and are as much a necessary of life to the people as salt. According to Colonel Sykes the leaves are eaten as a pot-herb. The two commonest varieties are *putomi* a long chilly and *motvi* about two inches long *Capsicum frutescens*. Other occasional varieties are *lavangi*, *C. minimum*, *C. grossum*, *C. ceraciforme*, and *C. purpureum*.

49. *Ova Ptycotis* ajowan or *Lingusticum agivaen* is sown in gardens at any time of the year and with dry crops in July and August. It matures in three months. The seed is used as a stomachic.

50. *Shepu* Fennel *Anethum sowa* or *graveolus* is sown in gardens in any month and with *bajri* and other dry crops in July and August. It is fit for use as a vegetable in six weeks and the seed ripens in two and a half months. The plant is eaten as a pot-herb and the seed is used as a stomachic. See No. 45.

51. *Us* Sugarcane *Saccharum officinarum* in 1881-82 covered 5502 acres, 2260 of which were in Haveli, 1022 in Purandhar, 968 in Junnar, 428 in Khed, 378 in Sirur, 311 in Bhimthadi, 113 in Indapur, and twenty-two in Maval. With the help of water and manure sugarcane is grown in deep black soils all over the district except in the extreme west; in the east it is one of the chief garden products. It is also much grown in Junnar, Khed, and Haveli, where, since the opening of the Mutha canals the area under sugarcane has considerably increased.

Condiments.

In preparing land for sugarcane the plough is driven across it seven or eight times; village manure is thrown on at the rate of about six tons (20 large carts) to the acre; and the land is once more ploughed and flooded. When the surface is beginning to dry it is levelled with the beam-harrow and in December or March the sugarcane is planted. The layers, which are pieces of mature cane about six inches long, are set in deep furrows drawn by the plough. Sugarcane thus planted is called *nangria us* or plough-cane to distinguish it from *pavlya us* or trodden cane which is pressed on by the foot after the land has been ploughed, broken fine, and flooded. The treading system is usually followed with the poorer canes or in poor soil. Trodden cane or *pavlya us* is manured ten or twelve days after the layers are put down by folding sheep on the spot. Trodden cane sprouts a month after planting; plough-cane being deeper set takes a month and a half to show but suffers less from any chance stoppage of water and reaches greater perfection. Sugarcane is either eaten raw or is made into raw sugar or *gul*.

The raw sugar or *gul* is extracted on the spot generally by the husbandmen themselves. A wooden press or *gurhal* worked by two or more pairs of bullocks is set up. The appliances used in making *gul* are: *chulvan* a large fire-place; *pavde*, a wooden instrument like a hoe for skimming or for drawing the juice from the boiler into its receptacle; *shibi*, a stick with a bamboo bowl or basket for straining

the liquid; *kahil* or *kadhail*, a boiling pan for thickening the juice; and *gurhal* or *charak* the sugarcane-press. The press is made entirely of wood and is worked by two pairs of oxen. Two upright solid cylinders, eighteen or twenty inches across called *navra-navri* or husband and wife, whose upper parts work into each other with oblique cogs, are made to revolve by means of a horizontal beam fixed to the *navra* in the centre and yoked to the oxen at its ends. The cane, stripped of its leaves and cut into lengths of two or three feet, is thrice passed by hand between the cylinders, and the juice is caught in a vessel below, which from time to time is emptied into the *kahil* a shallow circular iron boiling pan. When the pan is full the fire beneath it is lighted and fed chiefly with the pressed canes. After eight to twelve hours' boiling and skimming, the juice is partially cooled in earthen pots and finally poured into round holes dug in the earth and lined with cloth, where, when it forms into lumps called *dheps* or *dhekuls* it is fit for market. The pressing is done in the open air or in a light temporary shed and goes on night and day till the whole crop is pressed. A sugarcane press costs about £2 10s. (Rs. 25) and lasts three or four years. The boiling pan either belongs to the owner if he is well-to-do, or is hired either at a daily or a monthly rate according to the time for which it is wanted. The daily hire of a pan varies from 2s. to 4s. (Rs. 1-2) and the monthly hire from 10s. to £1 (Rs. 5-10). Each cane-mill employs about twelve workers. Seven remove the canes from the field and strip their leaves; one cuts the canes into pieces two feet long; two are at the mill, one feeding the mill the other drawing out the pressed canes; one minds the fire and another the boiling pan. The last is the *gulvia* or sugar-man. He is supposed to know exactly when the juice is sufficiently boiled and thickened to form lumps. As most sugarcane-growers are without this knowledge a sugar-man is hired at 6d, (4 as.) a day or £1 (Rs. 10) a month. The two feet long pieces of cane are passed between the upright cylinders two or three at a time. To stop any leaks the pan is smeared with *lodan* a glazed preparation of *udid* or *nachni* flour. It is then put on the fire-place and the hollow between the pan and the fire-place is closed with mud. About 600 pints (300 *shers*) of juice are poured into the pan and the fire is lighted. The boiling lasts six or seven hours during which the juice is constantly skimmed and lime-water and *nachni* flour are thrown into the juice to keep it from being too much boiled. When the sugar-man thinks the proper time has come the pan is taken off the fire and the juice, with constant stirring, is allowed to cool for about an hour. When cool it is poured into cloth-lined holes in the ground two feet deep and a foot and a half across. It is left in the holes for a couple of days until it has hardened into lumps or nodules weighing fifty to sixty pounds (25-30 *shers*). When the lumps are formed they are taken away. If the

sugarcane is of eighteen months' growth it yields *gul* equal to one-fourth of the juice boiled; in other cases it yields about a sixth. If the juice is allowed to overboil, it cannot make the *gul*; it remains the boiled juice of sugarcane which is called *kakavi*. The people believe that sugarcane fed with well water yields one-fifth more *gul* than the same cane fed by channel water. The correctness of this belief is doubtful.

As far back as 1839-40 the growth of Mauritius cane spread greatly in Junnar. The land was well suited to this cane, the supply of water was abundant, and the people were anxious to grow it. Mr. Dickinson, a planter of considerable experience in the West Indies, was employed in making sugar. But the produce did not find a ready market. [Bom. Rev. Rec. 1241 of 1841, 69.] He turned his refuse sugar and treacle to account by manufacturing rum. [Bom. Rev. Rec. 23 of 1849, 149.] In 1841, besides fifty-seven acres planted by the people on their own account, about 100 acres were planted in Junnar under contract with Mr. Dickinson, the manager of the sugar factory at Hivra. The sugar was used only by the European inhabitants of Poona and Ahmadnagar. [Bom. Rev. Rec. 1344 of 1842, 65-72.] In 1842-43, the area under Mauritius sugar rose from 157 to 388 acres. The cultivation spread from Junnar to Khed and Pabal. Sugar-works were started at Hivra by a joint stock company, and were afterwards bought by Mr. Dickinson. In Bhimthadi a Musalman planted some cane in the Chakar Bag with the view of making sugar and some husbandmen turned out sugar equal in grain to Mr. Dickinson's but not free from feculence. They also made *gul* which was sold at a higher price than that produced from the local cane. At first Mr. Dickinson was in the habit of contracting with the husbandmen to plant cane for him. He was afterwards able to obtain a sufficient supply at all times, chiefly from the gardens of Brahmans, headmen, and well-to-do husbandmen. In 1842 Mr. Dickinson made 87,000 pounds of sugar worth £1500 (Rs. 15,000) more than the outturn of the previous year. Messrs. Sundt and Webbe also planted about three acres of land with Mauritius cane in their garden at Mundhve, about five miles north-east of Poona, and made about 2½ tons (2826 *shers*) of *gul*, which was sold at 16s. (Rs. 8) the *palla* of 120 *shers*. [Bom. Rev. Rec. 1568 of 1844, 83-84.] In 1844, the area under Mauritius cane rose from 388 to 547 acres. Mr. Dickinson's farming continued successful partly because he was able to dispose of his rum and sugar by Government contracts. Many husbandmen were willing to make sugar but from want of capital and of local demand were obliged to content themselves by producing *gul*. [Bom. Rev. Rec. 17 of 1846 73.]

In 1847 Mr. Dickinson's sugar had a good year at Hivra. He made about five tons (330 *mans*) of Muscavado sugar and sold it to the families of the soldiers and other Europeans at Poona and Ahmadnagar. Among the natives the demand was trifling and this discouraged its more extended manufacture. The natives even in the immediate neighbourhood, preferred the soft blanched sugars sold by the shopkeepers; their objection to Mr. Dickinson's sugar was its colour, but to refine it would have caused a serious loss in quantity. In 1847 a committee which met in Poona to distribute prizes for the best specimens of superior field products, awarded a prize of £30 (Rs. 300) to two persons. One of the prize specimens was some grained Muscavado sugar, the other was sugar made by evaporation. Before crystallization had set in this sugar had been poured into pots with holes in the bottoms through which the treacle was allowed to pass. A prize of £20 (Rs. 200) was awarded to two other natives for the best brown sugar; and a third prize of £10 (Rs. 100) to two others for the best specimens of *rasi* or inferior, sugar. All the prize specimens came from near Junnar, and were due to the exertions and influence of Dr. Gibson. [Rev. Rec. 23 of 1849, 154-156.]

In 1881-82, in connection with sugarcane experiments, Mr. Woodrow; the superintendent of the botanical garden at Ganesh Khind, noticed that the soil of Poona had very little of the silica in combination with potash of soda and lime in the form known as soluble silicates. It was not difficult to reproduce these soluble silicates without which sugarcane cannot grow; but it would be expensive in India and could not be done in a short time.

To grow sugarcane without wearing out the land it was necessary to manure with two tons an acre of quicklime and ten loads an acre of woodash, and to sow and plough in a green crop such as hemp or black mustard.

After a crop of sugarcane the land should be manured for four years as usual and such crops grown as the soil and the markets suit, preference as far as possible being given to pulses and cereals being avoided. In no case should more than one corn crop be grown. At the end of the four years if the ground is treated in the usual manner for sugarcane an average crop may be expected. Poona sugarcane soil is usually rich in lime, in some cases lime is present in excess. It would often pay to make a kiln and burn the calcareous earth on or near the field where lime was wanted.

Bulb Vegetables.

Twelve bulb vegetables are grown in Poona. The details are:

POONA BULB VEGETABLES.

No.	MARATHI.	ENGLISH.	BOTANICAL.
52	<i>Alu</i>	Great-leaved Caladium	<i>Caladium grandifolium.</i>
53	<i>Batata</i>	Potato	<i>Solanum tuberosum.</i>
54	<i>Gajar</i>	Carrot	<i>Daucus carota.</i>
55	<i>Kanda</i>	Onions	<i>Allium cepa.</i>
56	<i>Kangar</i>	--	<i>Dioscorea fasciculate.</i>
57	<i>Karanda</i>	Bulb-bearing Yam	„ <i>bulbifera.</i>
58	<i>Kon or goradu.</i>	Common Yam	„ <i>alata.</i>
59	<i>Lasun</i>	Garlic	<i>Allium sativum.</i>
60	<i>Mula</i>	Radish	<i>Raphanus sativum.</i>
61	<i>Rajalu</i>	Arrow-leaved Caladium.	<i>Caladium sagitifolium.</i>
62	<i>Ratalu</i>	Sweet Potatoe	<i>Convolvulus batatas.</i>
63	<i>Suran</i>	--	<i>Amophophallus campanulatus.</i>

52. *Alu* *Calladium grandifolium* or *Arum campanulatum* with the help of manure and abundant water is grown in marshy hollows chiefly in the hilly west. It is generally planted in early June. The leaf is ready to cut in three months and the plant continues bearing for years. The leaf and stalk are eaten commonly as a vegetable, the root or bulb more seldom and on fast days. Dr. Birdwood gives three species *C. grandifolium*, *C. ovatum*, and *C. sagitifolium*. [Graham mentions *C. ovatum* and *C. grandifolium*; and held that *C. sagitifolium* was probably the same as *C. ovatum*.] He says that the stem leaf and root of the first and third are edible, but only the leaf of the second. *Rajalu*, *C. sagitifolium*, has narrow pointed leaves and green instead of purplish stem and veins.

53. *Batata* the Potato *Solanum tuberosum* is grown in Khed and Junnar. [These are generally known as Talegaon potatoes because they take rail at Talegaon station.] Except close to the hilly west potatoes are generally watered and manured. The potato is cut into small pieces each with a bud or eye, is planted in June or July, and is ready between late September and November. The introduction of the potato into Poona is chiefly due to the exertions of the late Dr. Gibson who in 1838 brought potatoes from the Nilgiris and distributed them for seed. About 1841 potatoes and sugarcane were the chief products in the experimental garden at Hivra. Potatoes were already grown in Junnar, Khed, and Pabal in sufficient quantities to be exported to Dhulia, Aurangabad, and Bombay. [Bom. Rev. Rec. 1453 of 1843, 176-7.] They were sold at the rate of twenty pounds (10 *shers*) of the first sort, and thirty to forty pounds (15-20 *shers*) of the inferior quality to the rupee. The potatoes were large and equal to any then grown in any part of India. [Bom. Rev. Rec. 1344 of 1842, 72.] In 1844 the potatoes of north Poona supplied a very large portion of the Bombay market. [Bom. Rev. Rec. 17 of 1846, 72.] In 1845 Dr. Gibson obtained a supply of good Irish potatoes. Since 1845 potato-growing has spread rapidly and there is at present a considerable area of garden as well as dry-crop land under potatoes. The potato is not grown to the east of a line drawn from Shikarpur to Vadgaon Pir. Though it was at first viewed with suspicion the potato is now a favourite food with Brahmans, and the Kunbis also eat the smaller and less saleable roots. Of two varieties one with a smooth light brown peel is the best, being mealy when cooked and fetching a higher price. The other has a rough dark skin and both in size and quality is inferior to the smooth-skinned variety. Two potato crops are raised in the year. One is planted in dry-crop lands in July and dug in late September; the other is planted in December and dug in February. The second crop requires a weekly watering.

54. *Gajar* Carrot *Daucus carota* with the help of water and manure is grown in large quantities in good black soil in the east of the district. The carrot is sown in garden lands at any time of the year and in dry-crop lands in July or August. It is ready for use in three months. The root is eaten as a vegetable both raw and boiled. It is also slit and dried in the sun when it will keep five or six months. When sun-dried it is called *usris* and has to be boiled before it is eaten.

55. *Kanda* Onion *Allium cepa* of two varieties, a red and a milder and more popular white, with the help of water and manures is grown in good black soil. Onions are sown in seed-beds at any time during the rains or cold weather, and planted when about a month old. It is fit

for use in two months after planting and takes two months more to come to maturity. It requires good black soil and should have water every eight or twelve days. The onion is eaten by all except by a few of the very orthodox and on certain sacred days. It is almost a necessary of life to the lower classes. The leaves are eaten as a pot-herb.

56. *Kangar* *Dioscorea fasciculata* is a yam closely resembling the *konor* common yam and the *karanda* or bulb-bearing yam. It is found in the hilly west. Its bulbs which form only below ground are like a small sweet potato in size and shape. The flesh is white and sweet.

57. *Karanda* is the bulb-bearing yam probably *Dioscorea bulbifera*. It is much like the common yam or *kon* in appearance and habits, and like it found in the hilly west. The *karanda* differs from the *kon* in having a rounder leaf and in bearing bulbs on the stems as well as on the root. Until it is boiled the flesh of the bulbs is slightly bitter.

58. *Kon* or *Goradu* the Common Yam *Dioscorea alata* is grown in small quantities without water or manure in the hilly west round the edges of fields or in house-yards. It is planted in June or July and by October the root is fit to eat. If left till December the root grows two feet long and eight inches across. The plant, which is a creeper with longish pointed leaves, bears two to five tubes or roots which when boiled make an excellent vegetable.

59. *Lasun* Garlic *Allium sativum* according to Colonel Sykes is of two varieties a red and white. It is grown with the help of water and manure in good black soil and requires water once every ten or twelve days. Segments of the bulb are planted in any month, and mature in four or five months. All classes use garlic in their cookery. The leaves are eaten as a pot-herb.

60. *Mula* Radish *Raphanus sativum* according to Dr. Birdwood is of two varieties, *D. radicula* and *oblonga*, and according to Colonel Sykes is of four varieties, three of them the long, the short, and the turnip radish which are white and one which is red. Radishes are grown with the help of manure at any time of the year in garden lands and sometimes in dry-crop land during the rains. The leaves are fit for use in six weeks, the root in two months, and the plant bears pods or *dingris* in a fortnight more, and continues bearing for a month and a half. The leaves are eaten boiled as a pot-herb and raw as a salad. The root is eaten as a vegetable both raw and boiled.

61. *Rajalu* Arrowleaved Caladium *Caladium sagitifolium*, according to Dr. Birdwood of three varieties, is grown with the help of water and manure. The leaves are narrower and more pointed than *alu* leaves, and the stem leaves and bulb are eaten in the same way.

62. *Ratalu* Sweet Potatoes *Convolvulus batatas* of two varieties a white and red, of which the red is the smaller and sweeter, are grown in the eastern sub-divisions. It is raised from layers put down any time in the rains or cold weather, and with the help of water and manure comes to maturity in six months. The young leaves and shoots are eaten as a pot-herb. The root is eaten boiled and roasted. It is also dried, ground to flour, and made into fast-day cakes. The mature vine is excellent fodder.

63. *Suran* *Amorphophallus campanulatus* is grown especially in the hilly west. It takes three years to mature. The *root* grows to a large size and though somewhat bitter is much esteemed as a vegetable. From a green tapering stem four or five inches in diameter at the base and about three feet long, five or six pennated leaves eighteen to twenty inches long shoot upwards and outwards. Every year the leaves and stem die and spring again.

Fruit Vegetables.

Twenty fruit vegetables are grown in Poona. The details are:

POONA FRUIT VEGETABLES.

No.	MARATHI.	ENGLISH.	BOTANICAL.
64	<i>Dhendshi</i>	--	--
65	<i>Dodke</i>	Sharp-cornered Cucumber.	<i>Luffa acutangula</i> or <i>Cucumis acutangulus</i> .
66	<i>Dudh-bhopla</i>	The Long White Gourd.	<i>Cucurbita longa</i> .
67	<i>Ghosale</i>	--	<i>Luffa petandria</i> .
68	<i>Kalingad</i>	Watermelon	<i>Cucurbita citrallus</i> .
69	<i>Karle</i>	--	<i>Momordica charantia</i> .
70	<i>Kartoli</i>	--	<i>Momordica divica</i>
71	<i>Kashi-</i>	Bottle Gourd,	<i>Cucurbita lagenaria</i> .

	<i>bhopla, Kashi-phal.</i>	False Calabash.	
72	<i>Kharbuj</i>	Melon	Cucumis melo.
73	<i>Khira, Khira Kakdi.</i>	Common Cucumber	Cucumis sativus.
74	<i>Kohala</i>	--	Cucurbita alba.
75	<i>Padval</i>	Snake Gourd	Trichosanthes anguina.
76	<i>Parvar</i>	--	Do. dioica or cucumerina.
77	<i>Tambda Bhopla.</i>	Red Pumpkin	Cucurbita melopepo. Do. pepo.
78	<i>Tarbuj</i>	--	--
79	<i>Tarkakdi</i>	--	Cucumis usitatissimus or Utl-lissimus.
80	<i>Tondli</i>	--	Coccinia indica, Momordica monodelphia.
81	<i>Valuk</i>	--	--
82	<i>Vange</i>	Egg-plant	Solnnum melongina.
83	<i>Vel Vange</i>	Tomato or Love-apple	Lycopersicon esculentum.

64. *Dhendshi* is sometimes grown round the edge of gardens but generally in river-beds. It begins to bear about three months after it is sown. The fruit is about the size of the two fists and is white both within and without. It is eaten cooked as a vegetable.

65. *Dodke* the Sharp-cornered Cucumber *Luffa acutangula* or *Cucumis acutangulus* is grown with the help of water and manure in rich land in the centre and east of the district round the edges of other crops. It is grown in gardens at any time. In dry-crop lands it is sown in June-July, grows exceedingly fast and to a great size, and begins to bear in two or two and a half months, and goes on bearing for one or one and a half months. The fruit, which is dark *green* and six inches to a foot long, is seamed with sharp ridges from end to end. The fruit is eaten boiled. No other part of the plant is used.

66. *Dudh-bhopla* the Long White Gourd *Cucurbita longa*, a creeping plant, is usually grown in garden lands round the edge of the crops. It

begins to bear in two or three months. The fruit, which is sometimes thirty or thirty-six inches long, has soft white flesh. It is a common and favourite vegetable. The skin and seeds are used in *chatni*. It is also made into a sweetmeat called *halva*.

67. *Ghosale* Luffa petandria is grown and used in the same way as the *dodke* (No. 65). The fruit, the only part eaten, is smooth, the same size as the *dodke*, and marked lengthwise with light lines. If watered the plant bears for two years.

68. *Kalingad* Watermelon Cucurbita citrallus, a creeping plant, is sown in the cold and hot months in moist sandy spots in river beds, and manured when six weeks old. The fruit is smooth and round, dark green mottled and striped with a lighter green. The flesh is pink and the seeds black or white. It is eaten both raw as a fruit and cooked in different ways.

69. *Karle* Momordica charantia smaller both in plant and fruit, is grown and used like the *dodke* and the *ghosale* Nos. 65 and 67. The surface of the fruit is roughened with knobs and each seed fills; the whole cross section of the fruit. It is slightly bitter and must be well boiled before it is eaten.

70. *Kartoli* Momordica dioica is a wild but saleable gourd like *karle*. The fruit is eaten as a vegetable after two boilings.

71. *Kashi-bhopla* or *Kashi-phal* that is the Benares Pumpkin Cucurbita lagenaria is grown in gardens and sometimes on river-banks. Except that it is roundish and thick instead of long, the fruit is like the *dudh-bhopla*. It is only eaten cooked. [The names *Kashi-bhopla* and *Kashi-phal* are also given to a large white gourd of a flattened globular shape with depressed segmental lines.]

72. *Kharbuj* Melon Cucumis melo is sown in the cold and hot months in moist sandy spots in river-beds, sometimes with the watermelon. The plant is manured when six weeks old and the fruit ripens in the third or fourth month. The fruit is round, green, or yellowish, the skin covered with a network of raised brown lines. It is eaten uncooked in a variety of ways.

73. *Khira* or *Khira Kakdi* Common Cucumber Cucumia sativus of two kinds, green and white fruited, is sown in dry-crop lands in July and August round the edge of early crops or in garden lands at any time. It

begins to bear in about two months. The fruit is ten to sixteen inches long and is much eaten both raw and cooked.

74. *Kohala* Cucurbita alba is grown round the edge of gardens at any time of the year. It begins to bear in three or four months. The fruit is larger than the red pumpkin and the flesh is white. It is never eaten raw but is much esteemed as a vegetable and is made into a sweetmeat called *halva*.

75. *Padval* Snakegourd Trichosanthes anguina except that it is never raised in dry-crop land, is grown in the same parts of the district and in the same way as the *dodke* (No. 65) The fruit, which is about three feet long and two or three inches thick, is marked lengthways with white lines. It is eaten boiled as a vegetable. The Marathas use the leaves, stalk, and root medicinally.

76. *Parvar* Trichosanthes dioica or cucumerina is grown early in the centre and east along the edges of betel-leaf gardens. The fruit is small and green and is highly valued by the people as a medicine.

77. *Tambda Bhopla* Red Pumpkin Cucurbita melopepo or pepo is usually grown round the edges of garden lands. It is sown at any time of the year and begins to bear in about three months. The fruit is roundish and sometimes very large, about eighteen inches in diameter with reddish flesh. It is cooked as a vegetable, and the shoots and young leaves are used as a pot-herb. The seeds are also eaten. This pumpkin is called *dangar* in some parts of the Deccan.

78. *Tarbuji* [Sir G. Birdwood gives *tarbuji* instead of *kalingad* as the vernacular of Cucurbita citrullus the watermelon. Mr. Fletcher admits that *tarbuji* is sometimes used for *kalingad*. He thinks this a mistake and that the *tarbuji* is more allied to the *kharbuji*.] is generally sown with *kharbuji* the melon in the cold and hot months in moist sandy spots in river-beds. It is manured when six weeks old. The fruit is like the *kharbuji* in the colour of its flesh and seeds, but is rather longer. It is eaten as a fruit and in salad.

79. *Tarkakdi* Cucumis usitatissimus or utilissimus is usually grown in river-beds in the cold and hot weather. The seed is planted in the moist sand and the plant is manured when about three weeks old. It ripens in about two and a half months. The fruit, which is smooth and about two feet long, is much eaten both raw and cooked.

80. *Tondli* *Coccinia indica* or *Momordica monodelphia* is grown in the same parts of the district and in the same way as the *dodke*. (No. 65). The fruit is a little smaller than a hen's egg and when ripe is red. It is eaten as a vegetable, but is never given to children as it is supposed to blunt the faculties. There is a bitter variety which is useless. The vine sometimes lasts for years.

81. *Valuk* is grown during the rains round fields of dry crop and at other times in garden lands. It bears in about three months. The fruit is eight or ten inches long and is yellowish marked lengthwise by lines. It is sweet and is eaten raw and cooked.

82. *Vangi* or *Baingan* the Egg-plant *Solanum melongena* is grown with the help of manure and water in considerable quantities; in rich soil often on river-bank mud in the centre and east and in gardens over the whole district except the west. In gardens it is sown at any time of the year. In dry land it is sown in June in seed-beds, planted during July, begins to bear in September, and if occasionally watered goes on bearing for four months. Its oval egg-like and slightly bitter fruit is one of the commonest and best of Deccan vegetables. It is boiled and fried, made into pickle, and sometimes slit and dried in the sun and kept in store under the name of *usris*. The leaves are said to be good for cleaning pearls. Hindus hold it wrong to use the stem as fuel. Besides the oval-fruited *baingan* there is a sort called *bangali* with fruit sometimes two feet long. There is also a wild variety called *dorli vangi* with a small and nearly round fruit.

83. *Vel Vangi* Tomato or Love-apple *Lycopersicon esculentum* with the help of manure and good soil is grown in small quantities all over the district and chiefly near large markets in the centre and east. It is grown in gardens at any time. In dry-crop land it is sown in June or July and fruits in October. The fruit is eaten both raw and cooked. The tomato was brought to India from Brazil by the Portuguese.

Pod Vegetables.

Four pod vegetables are grown in Poona. The details are:

POONA POD VEGETABLES.

No.	MARATHI.	ENGLISH.	BOTANICAL.
84	<i>Abai</i> or <i>kharsam</i>	--	--

	<i>bli.</i>		
85	<i>Bhendi</i>	Eatable Hibiscus	Abelmoschus csculentus or Hibiscus esculentus.
86	<i>Ghevada</i>	--	Dolichos lablab
87	<i>Govari</i>	--	Cyamopsis psoralioides or Dulichos fabaeformis.

84. *Abai* or *Kharsambli*, a creeping plant, is grown without water or manure near houses or on the edges of garden lands in all parts of the district. It begins to bear in three months and in good soil goes on bearing three or four years. The pod when very young and tender is used as a vegetable.

85. *Bhendi* Eatable Hibiscus Hibiscus esculentus is of two varieties *gari* or early and *hali* or late. Both are grown in gardens in all parts of the district and all the year round. They are also grown without water but often with manure. As a dry crop the early or *gari bhendi* with large leaves and short thick pods is sown in June, grows about two feet high, and bears from early August to December. The late or *hali bhendi*, with small leaves and thin prickly pods, is sown in June or July along the edges of or among *bajri* crops, grows seven feet high, begins to bear in late September, and goes on bearing till the end of November. Both kinds are grown in garden lands all the year round. The green pods are eaten boiled as a vegetable or fried. The ripe seeds are used in curry and *chatni*. The bark yields a fibre which is seldom used.

86. *Ghevda* Dolichos lablab is of many varieties, the chief being the black-seeded, the white-seeded, the *bot* or finger-like, *pattade* or the *hanuman*, and the white with curved white pods. It is grown with or without manure and water. It is sown in June or July on the edges of dry crops, begins to bear in October, and goes on bearing till January. As a watered crop it is grown round gardens or in the yards and porches of houses, where it goes on bearing two or three years. The pods are eaten boiled as a vegetable and the grain is used as a pulse.

87. *Govari* Cyamopsis psoralioides is grown in gardens at any time and during the rains on the edges or in the corners of the early grain crops. It begins to bear within three months and if watered occasionally goes on bearing for some months. The plant grows about three feet high with a single fibrous stem from which the pods grow in bunches. The pod is eaten green and is much prized as a vegetable.

Leaf Vegetables.

Twelve leaf vegetables are grown in Poona. The details are:

POONA LEAF VEGETABLES.

No.	MARATHI.	ENGLISH.	BOTANICAL.
88	<i>Alvi</i>	Common Cress	<i>Lepidium sativum.</i>
89	<i>Chakvat</i>	Goose Foot	<i>Chenopodium viride</i> or <i>album</i>
90	<i>Chandanbatva</i>	--	<i>Chenopodium.</i>
91	<i>Chavli</i>	Hermaphrodite Amaranth.	<i>Amaranthus</i> <i>polygamus</i>
92	<i>Chuka</i>	Bladder Dock, Blister Sorrel.	<i>Rumex vesicarius.</i>
93	<i>Math</i>	--	<i>Amaranthus tristis.</i>
94	<i>Methi</i>	Common Greek grass	<i>Trigonella</i> <i>foenumgraecum.</i>
95	<i>Mohan</i> or <i>Rai</i>	Mustard	<i>Sinapis racemosa.</i>
95	<i>Pokla</i>	--	<i>Amaranthus.</i>
97	<i>Pudina</i>	Mint	<i>Mentha sativa.</i>
98	<i>Rajgira</i>	--	<i>Amaranthus</i> <i>Candidas.</i>
99	<i>Tandulja</i>	Eatable Amaranth	<i>Amaranthus</i> <i>oleraceus.</i>

88. *Alvi* Cress *Lepidium sativum* is grown in gardens as a pot-herb and for the seed which is esteemed good for women after child-birth and is used in poultices for bruises.

89. *Chakvat* Goose Foot *Chenopodium viride* or *album* is usually grown in gardens, but sometimes in corners of early grain fields It is ready to cut a month after sowing. The plant is much esteemed as a pot-herb.

90. *Chandanbatva* *Chenopodium* is grown in all garden lands at any time of the year. The plant stands twelve to eighteen inches high and

has the new leaves of the upper shoot red. The leaves and stalk are eaten as a pot-herb.

91. *Chavli* Hermaphrodite amaranth *Amaranthus polygamus* is grown in gardens at any time of the year. It closely resembles *tandulja* but seldom grows more than six inches high and the leaves and stem are uniformly green. The leaves are eaten as a pot-herb.

92. *Chuka* Bladder Dock *Rumex vesicarius* is grown in gardens at any time of the year and is ready for use about a month after sowing. The plant is eaten as a pot-herb and has a pleasant bitter flavour.

93. *Math* *Amaranthus tristis* of two varieties red and green, is grown in gardens at any time of the year and is fit for use five or six weeks after sowing. [Sykes mentions three varieties and gives *A. oleraceus* as the botanical name.] The red variety stands three to five feet high, with a thick stem and has a small central plume as well as side flowers, and the leaves and especially the stem have a red tinge. The green variety is smaller. The leaves and young shoots are eaten boiled. A wild amaranth called *kate-math* is much eaten by the lower classes.

94. *Methi* Common Greek grass *Trigonella foenumgraecum* is grown in gardens in all parts of the district. It is sown at any time of the year, and with the help of water and manure is fit to cut in about three weeks, and is mature in two and a half months. When young the entire plant is eaten as a pot-herb by all classes. The seed is given to cattle as a strengthener and is much used as a condiment in curry. The mature stalks are an excellent fodder.

95. *Mohari* or *Rai* Mustard *Sinapis racemosa* of two kinds, red and black, is either grown at any time of the year in gardens or during the cold season round fields of wheat or gram, or among wheat and linseed [Sir G. Birdwood mentions four varieties *S. ramosa*, *S. glauca*, *S. dichotoma*, and *S. jaunceae*.]. The leaves and green pods are eaten as vegetable. The seed is used in curries and relishes, a medicinal oil is extracted from it, and it is powdered and applied as a blister.

96. *Pokla* *Amaranthus* of two kinds green and red grows one or two feet high in gardens at any time of the year. The leaf which is eaten as a pot-herb is ready for use in six weeks.

97. *Pudina* Mint *Mentha sativa* is grown in garden lands. It is a perennial and needs an occasional watering. The leaves are used as a garnish.

98. *Rajgira* of two varieties red and green *Amaranthus candidus* is grown in gardens at any time of the year and sometimes among watered wheat. [Sir G. Birdwood names them *A. tricolor* and *A. viridis*. Bom. Gov. Sel. CXXIII. 204 gives *A. polygamus* or *pendulus*.] In the green variety the seed plume is deep crimson and the stem and leaves are tinged with crimson, otherwise the varieties do not differ. The plant stands three to five feet high and has a heavy overhanging central seed plume. The seed is exceedingly small and is usually trodden out by human feet or rubbed out by hand. It is much eaten on fast days either as *lahi* which is made into balls or in cakes made from the flour of the parched grain. The leaves are commonly eaten as a pot-herb.

99. *Tandulja* Eatable Amaranth *Amaranthus oleraceus* is grown in gardens at any time of the year and is fit for use five or six weeks after sowing. The plant grows a foot high and has the stem red near the root. It has no seed plume, but flowers at each of its side shoots. Only the leaves and top shoots are eaten as a pot-herb.

The Vine.

Draksha the Vine *Vitis vinifera* is occasionally grown in the best garden land on the east border of the western belt and near Poona. The vine is grown from cuttings which, are ready for planting in six or eight months. It begins to bear in the third year and is in full fruit in the sixth or seventh. With care a vine goes on bearing for sixty or even it is said for a hundred years. The vine is trained in one of two ways. It is either supported on a stout upright often a growing stump which is pruned to a pollard like shape about five feet high, or a strong open trellis roof is thrown over the vineyard about six feet from the ground and the vines are trained horizontally on it. The vine supported on living pollards is said to pay best; the trellis-trained vine is the better preferred by the rich for its appearance and shade, and is said to encourage growth to a greater age. The vine yields, sweet grapes in January February and March, and sour grapes in August. The sour grapes are very abundant, but are not encouraged as they are of little value; the sweet grape is tended in every possible way, but is apt to suffer from disease. After each crop the vine is pruned and salt, sheep's dung, and dry fish are applied to each vine after the sour crop is over. Vines are flooded once in five or six days, the earth being previously loosened round their roots. Blight attacks them when the buds first appear and is removed by shaking the branches by the hand over a cloth into which the blight falls and is then carried to a distance and destroyed. This operation is performed three times a day, till the

buds are an inch long. Six varieties are grown: *kali* or black, a long fleshy grape of two kinds, *abhi* a large round white watery grape and *phakdi* a long somewhat fleshy white grape, *sahabi* or *kerni* a long white sweet grape, *bedana* the seedless a small round sweet and white grape, *sultani* or royal a large round bitter white grape, and *sakhri* or sweet a small round white and very sweet grape.

COFFEE.

Coffee was grown in 1839 by Messrs. Sundt and Webbe in their garden at Mundhave, five miles north-east of Poona. The Bombay Chamber of Commerce considered it excellent both in quality and cleanness, and said it would fetch the same price as the best Mocha coffee, or about 2d. the pound (Rs. 14 the Surat *man* of 40 pounds). To encourage the experiment, Government granted Messrs. Sundt and Webbe ten acres of land close to their garden. Red gravelly soil, according to Mr. Sundt, is the best suited for the coffee plant. The plant when young requires a great deal of shade. When about a year old it is planted in open ground where for at least four years, it must be screened from the extreme heat of the sun. To shade the coffee bushes Mr. Sundt grew castor-oil plants round the young trees. It wants no manure and water only fifteen or twenty days during the dry season. Mr. Sundt thought that much of the Poona soil was admirably suited to the coffee plant. He particularly recommended some spots of red gravelly soil between Khandala and Karla. [Bom. Rev. Rec. 1241 of 1841,75-76.] In 1842-43 Messrs. Sundt and Webbe grew plants from seed furnished them by Colonel Capon direct from Mocha. They had 7000 seedlings in their nursery ready for planting, and several berry-bearing trees which were fair specimens of fine coffee plants. A sample of coffee was submitted to the Chamber of Commerce who considered it equal to Mocha coffee. [Bom. Rev. Rec. 1568 of 1844.]

SENNA

In 1842-43 the Senna plant was grown in the Junnar sub-division by Mr. Dickinson and Dr. Gibson who supplied trees to several landlords. [Rev. Rec. 1568 of 1844.]

COCHINEAL.

About the year 1840 an attempt was made to introduce the cochineal insect into the Deccan. The attempt was unsuccessful, not because the climate was unsuited to the insect, but because the only insect that

could be procured was of the very smallest and worst kind known as the Cochineal Silvester. [Rev. Rec. 1241 of 1841,71 -72.]

SILK.

[Silk in India, by Mr. Geoghegan, Under Secretary to the Government of India (1872), 30-43.]

In October 1829, Signor Mutti, a native of Italy, offered his services to the Bombay Government as superintendent of any establishment that might be formed for the cultivation of silk. Government declined his offer but gave him to understand that liberal encouragement would be given to any one who might wish to grow silk on his own account. Encouraged by this assurance Signor Mutti resolved to attempt to grow silk. On his application in April 1830 the Collector of Poona was directed to make over to him the Kothrud garden in the town of Poona free of rent for fifteen years, on condition that the ground should be applied only to the growth of the mulberry. To this in 1830, 1831, and 1832, several plots of land were added. Lord Clare, then Governor of Bombay, took a strong interest in the subject, urged the desirableness of supporting Signor Mutti, and made him an advance of £600 (Rs. 6000). The Collector was at the same time authorised to remit the rent for six years on land cultivated with mulberry and to make advances for wells. In consequence of some disagreement between Signor Mutti and his partner Sorabji Patel most of the lands assigned to Signor Mutti had to be resumed; but he was left in possession of the Kothrud and Dhamdhere gardens. [Mr. Jacquemont, the cynical French traveller and botanist, met Lord Clare at the Kothrud garden. Of several experts present each gave his opinion. Mr. Mutti for mulberry trees, and Dr. Lush, who had a botanical garden at Dapuri, for mulberry hedges. Each kept to the opinion he had brought with him and in the evening they left Kothrud as they came, Dr. Lush to grow mulberry shrubs, Mr. Mutti to plant trees, the Parsi to set rid of his investment, and the Government to think over it all. Voyages, III. 580.] About the same time (1829) Mr. Giberne's experiments in growing silk in Khandesh attracted the attention of the Bombay Government, and the Bengal Government were asked to send to Bombay five convicts with their families who were skilled in the management of silk-worms and in the winding of silk. These men brought with them a quantity of eggs and were attached to the jail at Poona. But from want of careful supervision they appear to have done little either in the way of producing silk or of teaching. At the same time Mr. Owen, the surgeon at Sirur, began to manufacture silk upon a limited scale. The growth of his mulberries and the fineness of the fibre showed that the soil and

climate of that place were most favourable. Excellent Silk was also produced at the Poona jail. [Malcolm's Government of India, Appendix A. 69.] As the culture of silk was abandoned at Dhulia in Khandesh, Government determined to centre their efforts on Signor Mutti's experiments. In 1837 he was appointed temporarily on a monthly salary of £25 (Rs. 250) with a *native supervisor* on £5 (Rs. 50), and was allowed to spend not more than £10 (Rs. 100) a month in starting mulberry plantations. On the 21st of July 1838, Signor Mutti submitted his first report as superintendent of silk culture in the Deccan. According to this report, besides 567,081 slips and 4252 standard trees planted by husbandmen in the Deccan, Konkan, and Bombay, there were 49,850 slips in the Government nursery at Sasvad. Signor Mutti had also at Kothrud several persons whom he had instructed in all the branches of silk-making and had succeeded in making them smart, intelligent, and active. [Mr. Mutti had collected many cocoons of a silk-worm probably Bombay (Saturnia) my litter, said to breed wild near Poona of which he got basketfuls from the children at a very cheap rate. The green mucus of the animal made it very bard to clean. Still Mr. Mutti reeled it. It was a clear yellow, but with little gloss. Bengal Brahmans were said to make beautiful stuff of it. Jacquemont's Voyages, III. 580-81.] He had also received the most satisfactory reports of his silk from London, Glasgow, and Manchester, where it had been valued as high as 23s. 26s. and 29s. though reeled independently by natives. Upwards of twenty natives were reported to be acquainted with the winding of silk; and the people were said to be ready to take to silk-growing. In 1838, a sample of silk produced by Signor Mutti was sent for report to Mr. Joseph Ewart, a Manchester silk-broker, who reported that the thread was very good, being clean and even, and in every way showed excellent management on the part of the grower; that the silks would always be saleable as they would command a decided preference over the Bengal silks then imported, and come into close competition with Italian silks. The 1839 report is not so flourishing. Drought, the incursions of cattle, and neglect had much injured the mulberry bushes. Still the superintendent was sanguine. The dislike of the natives to plant mulberry trees, rear worms, and wind silk had been overcome, and several were engaged in making proper mulberry nurseries and transplanting and pruning the trees. The system of planting the mulberry bushes without earth had succeeded well and proved economical; the quantity of eggs produced by the butterflies had increased; they were regularly hatched and the cocoons had grown to the size of the yellow and sulphur varieties. At Kothrud the cocoons were so large that 1000 would yield two pounds (1 *sher*) of silk, and the people had shown themselves able to wind superior silk. The value of the mulberry plantation had

been shown by the sale of the leaves. [The leaves brought for feeding the worms at Vadgaon had been purchased from the husbandmen at $1\frac{1}{8}d.$ ($\frac{3}{4} a.$) the pound; the greater part were the prunings of mulberry plants under one year of age from the villages of Chinchuri, Vadgaon, Narayangaon, Savargaon, Gunjalvadi, and Malegaon. The people of Shivner and Pabal owed every inclination to plant the mulberry tree. The plantations were usually found in channel-watered places. The mulberry trees grew among plantains and sugarcane which did not appear to injure them and almost all kinds of produce could be grown under the trees which were usually ten to twelve feet part. The people showed great anxiety to possess worms in order to produce cocoons. All dislike on the part of the Brahmans to the making of silk was overcome. They were ready to wind the silk from the cocoons which could only be done by removing the cocoons in boiling water, thus depriving the grub within the cocoon of life. Many Brahmans were thus employed. They were also ready to engage in rearing worms and in winding silk in their own houses. Bom. Rev. Rec. 1314 of 1842, 67.]

In 1839, the advance of £600 (Rs. 6000) granted to Signor Mutti was written off in consideration of the benefit his exertions were calculated to confer on the country and of the loss to which he was subjected by ineffectual attempts to introduce the bush system of growing mulberries, a system afterwards abandoned by him in favour of standards.

In 1840 Messrs. Daniel and Co. started an establishment to plant mulberry bushes with the view of rearing silk-worms on a large scale. In spite of the opposition of the superintendent of silk culture they bought 533,800 cuttings with which they planted twenty-five acres of land near Narayangaon in Junnar, besides $16\frac{1}{2}$ acres (22 *bighas*) of land at Sasvad in Purandhar. They had also 500,000 cuttings in different gardens under their management. Mr. James on their behalf reared 25,000 worms at Narayangaon, which gave thirty-five pounds ($17\frac{1}{2}$ *shers*) of cocoons. From some of their eggs he had nearly a *lakh* of cocoons in his garden. All this was done in four months. Mr. James spoke highly of the bush system, but by no means wished to discourage the planting of trees. He stated that if hedges were grown between the trees, it lightened the expense so much that the planter could afford to encourage their growth. Hedges he considered absolutely necessary to the success of any person rearing silk-worms and attributed Signor Mutti's failure to the want of hedges. [Bom. Rev. Rec. 1241 of 1841, 75 -76.] Messrs. Daniel & Co. also established three silk-winding places or filatures, one at Kothrud near Poona, a second at Sasvad, and a third at Narayangaon. At Narayangaon there

were a number of worms and cocoons. The cocoons were inferior to Signor Mutti's cocoons both in size and softness. This was supposed to be due to the fact that bush leaves had not the same strength and nourishing power as tree leaves. A number of acres were grown with the bush, but its appearance was not healthy. [Bom. Rev. Rec. 1344 of 1842, 70.] In 1840, Signor Mutti went to Egypt on sick leave, and an honorarium of £200 (Rs. 2000) was given him and £40 (Rs. 400) to Mr. Ramos his assistant. An increase of £5 (Rs. 50) to Signor Mutti's pay was also sanctioned by Government. In June 1840 Signor Mutti returned to India. Of his operations for the next three years distinct accounts have not been obtained. The Government seem to have been satisfied with his proceedings. In 1843 Sir G. Arthur, then Governor of Bombay, recorded a minute strongly advocating perseverance in silk-growing. In this year, according to Signor Mutti's report, in Poona, Sorabji Patel had extensive plantations of several thousand mulberry trees two to ten years old and made a small quantity of silk. There were besides 1400 mulberry trees three to seven years old in the station of Poona, and 50,806 trees one to five years old belonging to 317 individuals in thirty-six villages. There were also mulberry hedge rows. In two villages two Brahmans had reared worms and made good cocoons. One reared 61,000 worms with considerable success and a profitable result. Signor Mutti had mulberry plantations at Kasimbag Vadgaon, Chinchore, Chas, Nanuri, Sankora, Narayangaon, Harvi, Utur, Hudapur, Dingora, Junnar, Manchar, and Ausri. [Bom. Rev. Rec. 1344 of 1842, 60.] He also mentioned six breeding places under his superintendence. At one of these, Savargaon, there were 35,000 worms. Reeling was carried on at Vadgaon. It was asserted that worms could be reared with less risk and in a shorter time than in Europe and that the worms were as good as were required for the higher qualities of Italian silk. The introduction of the art of winding, it was thought, wanted careful supervision at the outset, and the Collector of Poona was directed to continue the office of superintendent for five years longer, to erect four buildings for rearing worms in the Junnar or Pabal sub-division at a cost not exceeding £500 (Rs. 5000) as public property, and to conduct the breeding of worms and the making of silk on account of Signor Mutti himself or some private individual. Houses for rearing worms were accordingly built at Poona and Kasimbag Vadgaon. The Collector was also authorised to advance £200 (Rs. 2000) as a loan without interest to Signor Mutti to be repaid by instalments of £10 (Rs. 100) a month and to place £300 (Rs. 3000) at the disposal of the superintendent to be advanced by him to villagers who were anxious to grow silk. Signor Mutti established permanent winding places or filatures at Junnar, Dingora, and Narayangaon. He had 400,000 worms in these places,

and had been able to wind 160 to 200 pounds of silk a year. [Bom. Rev. Rec. 1569 of 1844,81-89.] Shortly after this date Signor Mutti fell ill, and Mr. Ramos was appointed to act for him.

In 1845 doubts of the success of the silk-growing experiment began to be raised. In 1847 a committee was appointed to report on the subject. The two members Dr. Gibson and Mr. Davidson joined in the opinion that any further attempt by Government to grow the mulberry with a view to the making of silk in the Deccan was not likely to succeed. Dr. Gibson expressed the decided opinion that neither bush nor standard could be profitably grown in the Deccan, and that the results shown by Signor Mutti had been due to an artificial stimulation, which deceived both Government and himself. Mr. Davidson agreed with Dr. Gibson, and Government ordered that all silk operations should cease.

No further attempt was made to grow silk till in September 1875, a sum of £250 (Rs. 2500) was placed at the disposal of Major G. Coussmaker, the superintendent of the photo zincographic office at Poona, to carry out tasar silk experiments. [Gov. Res. Genl. Dept. 2794, 15th Sept. 1875.] Major Coussmaker began the experiments on the 1st of August 1875. Pictures showing the moths, cocoons, and caterpillars were sent to the Collectors and forest officers and to their native subordinates. Descriptive circulars were also sent in English, Marathi, Gujarati, and Kanarese, offering to buy seed cocoons at 1s. (8 as.) and burst cocoons at 6d. (4 as.) the hundred. He asked the native officials to submit fortnightly reports on facts which came to their notice. He also from time to time wrote and distributed fresh circulars as he found out new facts or drew fresh conclusions. By these means a general interest in the collection of tasar cocoons was aroused and at a cost of £16 8s. (Rs. 164), Major Coussmaker received 62,216 cocoons by rail, post, cart, and headloads. Most of these cocoons came from the Konkan forests. The trees on which they were chiefly found were, in the Konkan, *bor* and *guti* *Zizyphus jujuba* and *xylopyra*, and *Terminalia tomentosa*, *kanchan* *Bauhinia parviflora*, *karvand* *Oarissa carandats*, and *mal kangani* *Celastrus montana*; and in Poona, Satara, Gujarat, and Khandesh, on these trees and also on *nandruk* *Ficus benamina*, *pimpri* *Ficus tela*, *dhavda* *Conocarpus latifolia*, and *lendeya* *Lagerstrœmia parviflora*. In the Panch Mahals they were also found on *halda* *Chloroxylon sweeten*. In the Konkan the men who collected them were to some extent Musalmans, Mhars, and Marathas, but chiefly Katkaris, Kolis, Kunbis, Varlis, and Thakurs, men who from February to May were in the habit of cutting branches to burn on their land. Major Coussmaker attempted to rear the worms in his office

building, in some of the rooms of his house, and in the veranda. Some of the cases and feeding trays were hung from the rafters of the rooms, from hooks and trees; others were fastened to uprights driven into the ground. In this way with wire and string netting and with bamboo chicks, Major Coussmaker succeeded in restraining the wanderings of the caterpillars and in guarding them from their enemies. But the food failed and batch after batch died from starvation. Between the middle of August 1875 and the end of October 1876 Major Coussmaker was hardly ever without moths. The gathering of the cocoons from the trees and moving them, shutting them in the baskets and bags, and generally disturbing them had the effect of repeatedly bringing out the moths during the months of February and March. Upwards of 100 moths were out every night and whenever a fresh batch of seed cocoons arrived, whatever the temperature or the time of year, moths came out in large quantities. The first supplies from the district officials arrived in February and included both full and empty cocoons packed in baskets and bags. On arrival it was not easy to find how many of the cocoons were full and how many were burst. The shaking had so disturbed them that the consignments were found to contain many moths more or less damaged. Major Coussmaker had all the cocoons moved to open trays and put into a spare room. The details for the eight months ending September show that on an average 529 females paired and 21,329 worms were hatched every month:

POONA TASAR EXPERIMENTS, 1875-76.

MONTH.	Males.	Females.	Paired.	Worms Hatched.
February 10th - 29th	355	419	48	No record.
March	1126	1217	399	--
April	578	636	289	20,770
May	539	553	115	14,781
June	504	523	424	38,579
July	430	443	372	43,097
August	423	320	309	45,854
September 1st-10th	142	120	89	7553

Total	4097	4231	2045	170,634
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Before the supplies from the districts came in, Major Coussmaker's men had gathered some 300 cocoons near Poona. These cocoons and the moths that came out of them, as well as the caterpillars which were hatched, were mostly sacrificed in experiments. The result confirmed Major Coussmaker's former experience that the males require more liberty than the females, that the females rarely moved from their empty cocoons or from the twigs on to which they crawled when their wings were stiffening, while the males flew away as soon as their wings were stiff enough. As during the rainy season several male moths were generally flying about, females, when tied out, were soon paired, their talc-like disks shining like little moons and drawing the male like the light of the glowworm. In this way Major Coussmaker succeeded in getting nearly all the females which came out during the monsoon of 1875 paired. His arrangements for rearing failed. His space was limited and his cages were badly aired, and though he hatched several hundreds he gathered only fifty cocoons. He afterwards moved into a larger house and gave the worms more room. He joined chairs and tables together with bamboos so as to make them form a succession of benches. On these benches he set bamboo mat trays and above the trays he hung twigs on strings, entirely giving up the indoor cage system. In some places he put rows of small pots with twigs in them, filling them with moist earth. This did not answer, as the caterpillars were more ready to crawl down the pots than up them and the free movement of the air was hindered. He therefore determined to trust to the strings alone. For a short time everything went well. Major Coussmaker had plenty of good fresh leaves; the worms were not crowded, and they grew considerably. But long before their fifty days of life were over, the leaves became hard or diseased, and though Major Coussmaker had abundance of leaves all were of inferior quality. During the whole season caterpillar after caterpillar pined and withered. Though from time to time the trees flushed and sent out fresh shoots, their efforts were spasmodic, and owing to the great scarcity of rain Major Coussmaker found it impossible to ensure a steady supply of suitable food. He found that many young worms crawled down the legs of the chairs and tables and disappeared. He accordingly changed his trays. He fastened ropes to the rafters and to hooks in the ceiling, and passing them through broken bottle fairleaders, so as to prevent the enemies of the worms climbing down or the worms climbing up, he made a succession of swinging trays, over which as before he set strings of twigs. This method greatly lessened the labour of tending; the worms were much more secure

and the ventilation was good. But again as in the year before food failed. Major Coussmaker changed the place of the swinging trays. Some, he tied to the boughs of trees, some in one veranda, some in another; but the food was no better. He let some loose on trees in the station, but there were no fresh leaves and they died or were taken by the birds, squirrels, and lizards. On a range of hills a few miles out of Poona he found a grassy tract with many bushes and saplings of Terminalia, Lagerstrœmia, and Carissa. Here he turned out some thousand worms and set men to watch them during the day. For some five weeks they did well. Then a very hot fortnight set in, the saplings and small bushes lost their leaves, and almost all the worms died. Major Coussmaker thought the failure was entirely due to the unprecedented drought. Although Major Coussmaker failed in rearing, he succeeded in breeding and in procuring fertile eggs. During the hot weather, when no wild males were flying, Major Coussmaker found it was little use tying out the females, but during the rains he was successful. From February to May he turned all the moths as they came into a bedstead shaded with mosquito curtains, and a fair proportion paired. After May he rigged the swinging trays as before, and in the mat trays resting on them he set the cocoons, covering the whole with bamboo chicks fastened like a pent-house about three feet high. After they came out of the cocoons the moths crawled up the chicks and there hung while their wings were expanding. Major Coussmaker found that several of the moths paired in these cages. Each morning he looked at them, and leaving the pairs inside the cages undisturbed, he put the rest of the moths into a large basket and covered them. About four in the afternoon he looked at them and found that several of them had paired. These were left undisturbed; and all the unpaired females were tethered to a small trellis-work. At dark, this frame was hung to a tree, and all the unpaired males were set free near it. In the morning most of the tethered females were paired. The frame was brought indoors and hung out of the way. Care was taken to use no force in separating the pairs. They were always allowed to free themselves. After they were free the females were put under inverted baskets to lay their eggs, and the males were put into a basket to be set free at sunset. By following this system, most of the females paired and their eggs proved fertile, but the average outturn of eggs was less than Major Coussmaker had formerly noticed, only 106 to each moth. Major Coussmaker did not have the eggs counted, only the number of worms hatched. Major Coussmaker's head silk-worm tender was a Maratha widow, who had been taught in the female normal school at Poona. It was chiefly from her that he received the figures quoted above. She made every effort to keep the worms alive, closing windows and doors, hanging up wet cloths,

putting *khaskhas* tatties to the doors, sprinkling the twigs and dipping them in water; but all was of no avail. Death returns kept by Major Coussmaker showed that of the worms that died two-thirds were under a week old. Of 170,634 worms hatched between the 1st of April and the 10th of September only 2623 grew up and spun cocoons, This mortality in Major Coussmakers opinion was due to the want of suitable food. Under the head tender, Major Coussmaker had five lads, some looking after the worms in his garden and some, tending them in the bushlands on the hills near, and at odd times cleaning the burst cocoons and preparing them for the manufacturer. Most of the cocoons sent to Major Coussmaker were those of *Antheraea paphia* and belonged to the common variety of that moth. In September 1875, Major Bowie, Deputy Commissioner at Sambalpur, sent him some cocoons belonging to another variety called by the natives of the Central Provinces the Chhattisgad cocoon. These were larger, but much thinner and softer. The moths, though slightly darker, paired readily with the small hard-cocoon moth. As far as Major Coussmaker could judge the difference between the two was one of climate and feeding. The Chhattisgad moths were more delicate and limper. The remaining cocoons received from the Bombay forests were of *Attacus edwardsii* and of *Cricula trifenestrata*. Several moths of both these species came out but none paired. *Attacus edwardsii* seemed to be distributed over the whole Presidency and was found also in Masur; *Cricula trifenestrata* came from North Kanara only.

The tree which Major Coussmaker used for indoor rearing was the *nandruk* *Ficus benjamina*. The leaves travel well and long keep fresh. The tree has constant flushes of young leaves and being planted for shelter in many places along the roadside was in every way the best suited for a large experiment. At the same time, as they were neither pruned nor watered, the *nandruks* failed to yield a trustworthy supply of suitable leaves. Major Coussmaker tried the *bor* *Zizyphus jujuba*, but it quickly withered. Still on it, on the *ain* *Terminalia tomentosa*, the *lendeya* *Lagerstræmia parviflora*, and the *karvand* *Carissa carandas*, a few caterpillars grew to maturity out of doors. Mr. Woodrow, the superintendent of the Ganeshkhind Botanical Gardens, had also in the same year (1876-77) a small sum placed at his disposal by the Collector of Poona to make experiments in the growth of tasar silk. He laid down a great many cuttings of *Ficus benjamina*, and built a light roomy shed, with the sides and top of coir matting, a cheap and effective structure. Mr. Woodrow got a few seed cocoons and Major Coussmaker from time to time gave him fertile eggs. The result of his experiments was the same as of Major Coussmaker's. The moths bred freely in confinement and produced fertile eggs in abundance and in

due course the caterpillars appeared. But of the number that entered on the worm stage only about five per cent lived to spin cocoons and these cocoons were decidedly inferior to what might be gathered all over the country. Every now and again the caterpillars thrived well, but when the quality of the leaves fell off, the caterpillars starved and died. At the close of his experiments he had 923 good cocoons. Mr. Lyle, an American employed on the Peninsula railway, tried a series of experiments in rearing silk-worms at his house near Dapuri. As he had no room or shed, he with great ingenuity made a set of large pens or cages fixed on uprights driven into the ground under some good shade-trees. The sides and tops of his cages were of bamboo chicks closely fastened together so that while sufficient air was admitted no caterpillar could escape, and none of the silk-worms' enemies could come at them; a coating of mixed tar and castor-oil prevented any enemy climbing the uprights. Inside his cages, Mr. Lyle stretched wires lengthways and hung the twigs on the wires. A good deal of light rain fell at Dapuri in the month of August when Mr. Lyle's cages were full, and the wind driving the moisture through the openings of the chicks kept the leaves fresh and the worms thrived as well as on the trees. He got some cocoons from trees along the line and Major Coussmaker provided him with some fertile eggs. From these, which he began to rear on the 7th of August and which span by the 20th of September, he gathered 1509 cocoons, the majority of which were as fine as any forest reared specimens in the neighbourhood. He had a greater choice of food than Major Couss-maker, and managed to secure a superior quality of leaf throughout the forty-five days. He fed the worms on *Ficus benjamina* and *Ficus tjiela* twigs eighteen inches long laid very close together. In his opinion the worms seemed equally fond of both kinds. One objection to *Ficus tjiela* was that when it dried or faded the leaf rolled up and, especially at moulting time, hurt the caterpillar resting on it. He also noticed that, if they had begun to eat one kind of leaf the caterpillars would not pass from *nandruk* to *bor* or from *bor* to *nandruk*. Mr. Lyle by accident found that the worms thrived well on *Lagerstraemia indica*, a leafy, ornamental, flowering shrub found in most gardens. Both he and Major Coussmaker put some caterpillars on these trees and found that they grew enormously and spun very large cocoons. The chief experience gained by the year's experiments was that seed cocoons should be moved as little as possible; that feeding worms on twigs gathered from unpruned roadside trees was a mistake, as eighteen inch twigs have only three or four suitable leaves; that plantations should be made of trees and shrubs and that the trees should be pollarded; that when worms are fed out of doors the trees should be guarded by cages or nets and when under shelter the worms should be kept either in coir-matting sheds or in portable

pens or cages; that only the third, fourth, and fifth leaves from the end of the twig should be used, and that these twigs should be renewed three or four times a day; that the system of cages, baskets, and tethering ensures a supply of fertile eggs; that the eggs of the healthier moths should alone be kept for distribution or for home-rearing; that since the silk-mill in Bombay can work burst cocoons there is no need to kill a single chrysalis, all the moths should be allowed to come out of the cocoons; that after the moths come out the cocoon should be carefully cleaned, all pieces of leaf or twig brushed off, and all cast skins and chrysalis picked from the inside; that the habits of the trees or shrubs used for feeding the worms should be carefully watched to find how best to ensure a steady supply of suitable food.

As regards the working of the tasar cocoons into fabrics Major Coussmaker carried on a correspondence with Messrs. Tapidas Varajdas and Co., secretaries and treasurers of the Alliance Spinning and Weaving Company Limited, of Bombay, and placed the whole matter in their hands. He sent them 112 pounds of cocoons cleaned as well as his labourers could clean them without boiling them. Messrs. Tapidas and Company found that the cocoons yielded about forty per cent of pure silk and about thirty per cent of noils and refuse. The remaining thirty per cent, which was lost in the boiling, in Major Coussmaker's opinion was the natural cement, the dirt, and foreign matter left by the cleaners. Some of the forty-five pounds of silk that remained was woven into tasar cloth, some into tasar poplin, and a considerable quantity was used in experiments made with the view of bleaching it. Messrs. Tapidas and Company were not able to put any value on the material either in the form of cocoons, of yarn, or of piecegoods, as there was no demand for tasar. They could not use it unless it could be supplied as white or nearly as white and as capable of taking every dye as the B. more silk. [Major Coussmaker's Report to Government, 20th November 1876.]

In 1877, the Bombay Government sanctioned the payment to Major Coussmaker of £50 (Rs. 500) as an honorarium. [Bom. Gov. Res. 597, 22nd February 1877 (General Department).] At Ganeshkhind the first cocoons seemed fertile, but only about live per cent of the caterpillars lived to spin. The second generation did not come to maturity.

In the course of his inquiries Major Coussmaker got a sample of fibre much superior to any Indian specimen he had seen, though inferior to Italian silk. He found that this fibre was produced by a hybrid of the tasar moth with the *yamamai* or oak-feeding moth of Japan. The

Bombay Government, in communication with the British officials in Japan, procured some eggs of the oak-feeding variety. Boxes of this seed were sent to various official and private experimenters. Those kept by Major Coussmaker seem to have been all killed by the dry heat of Poona, nor did those kept in Bombay by experienced and generally successful silk-growers fare better. It has been suggested that the *yamamai* breed should be introduced in the cocoon state, but it is extremely doubtful whether the true cause of their failure is not the absence of any leaf of the oak family which is their natural food. The only tree to which they seemed to show the slightest partiality was the *nandruk* *Ficus benjaminia*, and even on that they fed for not more than four days. That the journey is not the cause of failure seems clear from the success with which this breed of silk moth has been carried from Yokohama across the United States to England, a journey of more than forty days.

In 1879, Major Coussmaker resumed his experiments. He set aside fifty cocoons of the 1878 crop for breeding. He also got from others a good supply of moths, many of which he allowed to escape as he had not food for many caterpillars. He kept some 10,000 eggs hoping to find food for them in Poona. But he failed to get more than 500 good cocoons from them of which he kept only a hundred. As before the great difficulty was to secure an unfailing supply of suitable food. To improve his supply, with the first promise of rain in June, Major Coussmaker set aside about one-sixth of an acre in his garden with, a southerly aspect. This he cleared of trees and bushes and laid it out in ridges four feet wide with side gutters. On these ridges he planted 340 feet of *dhayti* *Lagerstræmia indica*, 270 feet of *bor* *Zizyphus jujuba*, ninety feet of *karvand* *Carissa carandas*, 107 feet of *ain* *Terminalia tomentosa*, fifteen feet of *arjun* or *sadada* *Terminalia arjun*, and forty-six feet of *nandruk* *Ficus benjaminia*. He found *dhayti* the most suitable plant. With liberal water it constantly threw out shoots covered with leaves which the worms ate greedily. The plant could be easily grown from the root. The *bor* was liked by the worms but the leaves were small and thinly scattered and were soon eaten. The *karvand* was leafier but a slow grower. The *ain* and *arjun* had larger leaves but were slow growers. The *nandruk* was a failure, it did not thrive and was not eaten. A *dhayti* plantation with *bor* and *karvand* hedges would yield plenty of food after the beginning of its third rains. Major Coussmaker kept all his seed cocoons hung on a wall out of reach of rats. So long as they were left undisturbed the moths came out only during the regular season. Large numbers died when cold October east winds set in. But the chief causes of death were preventable, shortness of food and attacks of insects, birds, mice, and other enemies.

In 1880-81, Major Coussmaker's crop of cocoons failed. He thought this failure was the fault of the cages. These were tarred screens of split bamboo. They kept out rats, mice, birds, squirrels, and lizards, but they were too dark; the plants did not thrive and the worms were always trying to escape. He made the cages longer and put netting at the top and everything thrived till some wasps and other insects punctured and killed most of the silk-worms. He had about 30,000 clean perforated cocoons weighing about sixty pounds. He thought it best to go on collecting until he got about a hundredweight. In 1881, though the results were better, Major Coussmaker did not succeed in gathering a full season's crop of cocoons of his own rearing. His food supply was perfect and the cages kept out all the larger enemies of the worm; still there was much sickness and many deaths. Only 1000 cocoons were gathered. His first batch of worms hatched on the 2nd of May and the first cocoon was spun on the 6th of June. The last batch of worms hatched in the middle of November, but they gradually dwindled and came to nothing; the last worm died on the 8th of December. The whole season's collection amounted to 60,000 cocoons double of the 1880 collection. It was chiefly received from the Forest Department who sent 58,000 cocoons. Major Coussmaker had all these cocoons cleaned of extraneous matter. The outturn for the two years, 200 pounds of clean cocoons, was sent to Mr. Thomas Wardle of Lack in England. This was sold to Messrs. Clayton Marsdens and Company of Halifax at 1s. 3d. the pound. The spinners reported that the fibre was somewhat coarser than most tasar waste and the cocoons had been opened, but this was not a serious drawback to its spinning qualities. At this time, in Major Coussmaker's opinion, the prospects of the tasar silk industry were promising, every year showing an improvement. Major Coussmaker laid out a sixth of an acre as a *dhayti* or *gulmendhi* plantation. The land was laid out in ridges seven feet wide with a gutter of one foot between. The *dhaytis* were put into a trench of good soil mixed with manure in the middle of each ridge one foot apart. Where the ground was not filled with the cages, on each side of the *dhaytis* on the ridges vegetables were grown. Care was taken to lay out the ground in the way best suited for watering. The cages were tarred rectangular pieces of split bamboo screen-work, a cheap light material neither liable to be hurt by the weather nor to be gnawed by rats. In making the cages he tied the screens together, making the sides three feet high and the ends six feet wide. The cage could be put up over the whole length of the hedge and was divided into twelve-foot sections. From side to side, arched over the top of the hedge, pieces of rattan had their ends fastened to the screens and the middle to a light ridge pole which rested on triangular screens. Over these hoops coarse open cotton was

spread. By this arrangement nothing touched the shrubs which were uniformly cut to a height of four feet and nothing tempted the worms to leave their food. There were three screens under the triangles. The middle screen was fixed and the two smaller screens on either side were fitted with string hinges, allowing boys to go in and clean on both sides of the hedges without injuring the shrubs. When hatching, the worms were put on the plants near the door, and they ate away steadily crawling to the next when the first twig was stripped. As fast as they were eaten the bare twigs were cut off and fresh ones grew. After a few weeks the hedge was as thickly covered with leaves as when the caterpillars were put in, and this process went on as long as the rearing of the worms was continued. When the twigs in any section of the screen were stripped the screen was taken down and shifted along the hedge or to some new place. As a rule little water was required. In July 1882, Government held that the experiments conducted by Major Coussmaker proved that tasar silk could be grown with success in the Deccan. They proposed to continue the experiments, and hoped they would lead to the considerable growing of tasar silk. In 1882 Major Coussmaker increased his *Lagerstræmia* plantation to 1500 feet and his *Zizyphus* hedge to 300 feet. In February 1883, before retiring from the service, Major Coussmaker in a final report expressed his opinion that tasar silk-growing would not pay. Large imports from China had lowered the price of tasar waste in England, the Bombay cocoons were small and yielded little silk, and the gathering of wild cocoons or the rearing of worms were both costly. 6d, (4 as.) a hundred was the cheapest rate at which forest cocoons could be gathered and this was too high to admit of profit. The people did not find it pay them to leave their regular work and gather cocoons. It was only by the personal exertions of the forest officers that so much had been gathered. Major Coussmaker had nearly every year tried to increase the size of the cocoons by bringing large cocoons from Sambalpur, Yamtara, Manbhum, and other places, but with no success. The moths had paired readily with the small Deccan variety, the worms had hatched, but there was no difference in the cocoons. Major Coussmaker believed that the smallness of the Deccan cocoon was due to the climate and perhaps in a less degree to the food. As far as outturn went the result of rearing the tasar silk-worm was satisfactory. Within six weeks Major Coussmaker had been able to gather three cocoons from each foot of hedge. In 1882 the first worm hatched on the 9th of May and the first cocoon was gathered thirty-two days later. The worms of this batch numbered 380 and 347 of them spun cocoons, beginning on the 7th and ending on the 24th of June. They consumed 110 feet of *Lagerstræmia*. Of 1800 feet of *Lagerstræmia*, one-half was sufficiently grown to yield a steady supply

of food. From these 900 feet between May and October Major Coussmaker gathered 5678 cocoons. Of these only about half, which were almost all gathered before the end of July, were sound and perfectly formed. Later in the season without any apparent cause he lost many pairs of worms in all stages, some being the progeny of moths of the preceding year. Still many cocoons were spun, some of which were very fine, but the majority were weak and thin. These facts, his own former experience, and the information received in letters and printed reports showed that no reliance could be placed on any but the first crop of the season, the progeny of the moths which rest in their cocoons during the cold and hot seasons, and which emerge easily in the monsoon when the first showers of rain fall. Throughout the whole monsoon and often at other times, when disturbed, moths continue to appear but with an unsatisfactory result and much loss of life. Enough cocoons were spun to ensure a supply of seed cocoons, but not enough to call a crop. Major Coussmaker's arrangements had succeeded in guarding the worms and ensuring a steady supply of food. The labour bill was reduced to a minimum; one woman and one boy could easily look after at least an acre of hedge and keep the enclosures in repair. At the same time if the southwest rains did not break early and heavily the hedges would have to be watered and the expense of enclosing would be very great. So long as tasar continued cheap this system could not pay. Crows, sparrows, squirrels, and rats gather near dwellings and must be kept out. Major Coussmaker succeeded in keeping the worms safe from their enemies, but the process was costly. Major Coussmaker having wound up his series of experiments, handed his plantation of *Lagerstræmia* and *Zizyphus* bushes, together with the bamboo screens and iron rods which he used for his enclosures, to the superintendent of the Central Jail at Yarávda. There is land attached to the jail and the head jailor took an interest in silk experiments.

EXPERIMENTAL GARDENS.

Shortly before 1841 an experimental garden was started at Hivra, about ten miles east of Junnar. In 1841 potatoes and sugarcane were the chief products. The market for the potatoes extended to Dhulia, Aurangabad, and Bombay, and the growth of sugarcane had greatly increased. Numerous other products were also tried. The chief were, American maize, *anotto* dye for which there was a large demand in Poona hemp, and oil-plants. A valuable variety of rice the *kamod* Was introduced into the district, and thirty-eight kinds of choice wheat were received from Edinburgh. Dr. Gibson, the superintendent of the garden, considered the cultivation of cotton, cassia root or tapioca root,

and coffee unsuited to Poona. [Bom, Rev. Rec. 1455 of 1843, 176-7.] There was a similar garden at Government House at Dapuri, about eight miles north-west of Poona for which Government did not incur any additional expenditure, and Where several trees, including among others the India Rubber tree, were raised. In the nursery on the top of Shivner fort by the help of four Chinese convicts upwards of 200 exotic trees were grown and seemed likely to be useful The olive and cedar Nourished in some places in the plains, but at Dapuri the Soil was not good enough for the olive.

About the same time (1841) Messrs. Sundt and Webbe, two enterprising and respectable Anglo-Indians, had a well cultivated garden at Mundhve, about four miles east of Poona. Besides growing oranges, grapes, and other fruit they turned their attention to the cultivation of the coffee plant. In 1847 they had about a hundred healthy trees from which they realized a good crop, besides a thousand young plants ready for putting out. They also grew a little Mauritius sugarcane and made raw-sugar or *gul* from its juice.

BOTANICAL GARDENS.

The botanical garden at Ganeshkhind was started in 1873, and along with the Hivra garden, has since been under the superintendence of Mr. G. M. Woodrow. The principal object of these gardens is to supply the Medical Department with drugs. In 1872-73 the outturn of the gardens included 700 pounds of senna, 1300 pounds of henbane, and 1036 pounds of dandylion. During the same year the chief produce of the laboratory was 107 pounds of extract of colycinth compound, fifty-six pounds of extract of hyoscyamus, 1621 pounds of groundnut-oil, 7190 pounds of castor-oil, and eleven pounds of croton oil. In that year experiments were made with various artificial manures, nitro-phosphate, citrate, dissolved bones, nitrate of soda, hop manure, and superphosphate. The income of the gardens amounted to £164 (Rs. 1640) and the expenditure to £154 (Rs. 1540). The laboratory receipts were £431 (Rs. 4310) and the expenditure £319 (Rs. 3190). In 1873-74 experiments were made with European artificial manures; the result was not satisfactory. It was proved that silt from the drains of Poona city is a valuable manure at least equal for one year's crop to dung from oil-cake fed cattle. Of the cork trees that were planted three years before, many had died and a few were struggling for life. One, which had grown six and a half feet high and four inches in circumference, appeared to be in perfect health. As this showed that the climate was not unsuited to the cork-tree, the Secretary of State was asked to arrange for the despatch of periodical supplies of cork-

tree acorns. Many new ornamental plants were introduced, the most valuable of which was the *Exogonium purga*, the plant which yields the drug jalap. Experiments were also made for the growth of fibre for paper. The income was £352 (Rs. 3520) and the expenditure £1222 (Rs. 12,220) besides £558 (Rs. 5580) spent on the laboratory building from a fund set apart for the purpose. In 1874-75, the income was £842 (Rs. 8420) and the expenditure £1257 (Rs. 12,570). The area under tillage was fifty-seven acres, seven of which were watered. One fact was ascertained that prickly-pear made a valuable manure if it was left to rot in a cistern through which the water of an irrigation channel was led. Some new descriptions of tree were added, A fairly successful attempt was made to grow vanilla. Flax was also grown of fair quality but of excessive dearness. Unsuccessful attempts were made to get paper from *san* stalks and plantain fibre. Most of the cork acorns brought from England arrived dead. In 1875-76, the income of the garden amounted to £660 (Rs. 6600) and the expenditure to £1268 (Rs. 12,680). The most important new introductions were *Balsamocarpon brevifolium* a plant yielding pods useful in tanning and the Liberian coffee. Cereal crops were raised with a view to selecting the seed. 3000 half-standard roses were ready for distribution. A list of the medicinal plants was printed and indents became more frequent.

In 1876-77, the income of the garden amounted to £951 (Rs. 9510) and the expenditure to £1285 (Rs. 12,850). Experiments with the *Wagatea spicata*, a climbing shrub, a native of the Konkan, showed that its seed-pods contained a high proportion, fifteen per cent, of, tannic acid. A satisfactory feature in the working of the garden was the extent to which its drugs, chiefly taraxacum and colocynth, were in demand. Experiments in the production of tasar silk were continued. In 1877-78, experiments were carried on with mahogany trees, the seed of which had been sent from Kew Gardens and planted in. 1874. The results seemed to show that the tree could be acclimatised and established if well watered during the first two years. The blue gum tree, *Eucalyptus globulus*, was found to thrive well for four or five years and then to die off. The superintendent was of opinion that an exotic which like the gum tree did not go to rest at any time of the year was sure not to succeed. *Cinchona*, though it grew well in the conservatory, died in the hot season if planted out. Taraxicum was grown with success. The tasar silk experiments were not satisfactory. The income of the garden was £516 (Rs. 5160) and the expenditure £1200 (Rs. 12,900). The Ganeshkhind gardens, which were originally intended merely as a nursery for the growth of local medicinal plants, under the supervision of a scientific gardener had assumed a botanical character, In 1878-79, a committee was appointed to consider how

the locality could best be developed for the purpose of botanical experiments and instruction. The suggestions of the committee were considered by Government and it was decided that the gardens should be constituted the recognized chief botanic gardens of the Presidency and that arrangements should be made for forming in them as complete a collection as possible of the local plants of Western India, a herbarium of which was to be kept permanently on the spot, along with a select library of diagrams and botanical works of reference. The manufacture of oil was discontinued and the superintendent was instructed to manage the gardens with the view of making them of purely botanical and scientific utility. Botanical teaching was begun at the end of February 1879 by means of lectures at the gardens and at the College of Science and at the deccan College in Poona, with illustrations of specimens collected by the superintendent. The average attendance was fifty-one students.

Experiments with Nankin cotton showed that it could not be profitably grown in the Deccan. The sample sent to the Bombay Chamber of Commerce was estimated to be worth £5 (Rs. 50) less than the common samples of Dholera. The forage plant, *Reana luxuriens*, was found to be no better than sugarcane when grown in rich soil and irrigated, and worse than *jvari* when treated as a dry crop. The income of the garden was £740 (Rs. 7400) besides £134 (Rs. 1340) the value of the oil on hand, and the expenditure £1282 (Rs. 12,820), that is a net cost of £408 (Rs. 4080). In 1879-80, the room formerly occupied by the oil-pressing machinery was partially fitted as an herbarium and specimens of about 1700 species were arranged according to their natural orders. Some of these were identified and the rest were sent to the Royal Herbarium at Kew for comparison. Considerable additions were made to the library which was used by a large number of botanical and agricultural students. Botanical teaching was continued during the year at the gardens and at the adjacent Poona colleges. The average attendance at the gardens fell from fifty-nine to nineteen as the students were allowed to pass the examinations without attending at the gardens. Six trained native gardeners or *malis* were sent out during the year and the demand for trained men continued much greater than the supply.

Experiment with the thornless opuntia or prickly-pear, which can be easily skinned and is then a favourite food for cattle, showed that it grows freely as a fence and is not likely to prove troublesome as it does not grow from seed. The yield of the forage grass *Euchleina* luxurious seemed nearly the same as that of guinea-grass. A crop sown in November and cut in April gave sixteen tons the acre of green

forage at one cutting. Fifty mango trees of the finest varieties were planted for stock from which grafts could be taken for distribution. The demand for imported seeds had risen from £69 (Rs. 690) in 1875 to £124 (Rs. 1240). Experiments with lucern grass seemed to prove the French variety superior to the acclimatised variety. The plant was quite as vigorous, the stalk was more delicate, and the seed was only half the weight. The receipts of the garden amounted to £946 (Rs. 9460) and the charges to £1554 (Rs. 15,540). In 1880-81, additions to the herbarium brought up the collection to about 2080 species of which about 1080 were identified. Botanical teaching was continued at the gardens. A number of full grown specimens of *Albizzia prooera*, one of the local trees which during the cold season of 1878-79 had been transplanted without soil on the roots, showed satisfactory results. *Euchleina luxuriens* was again grown for forage. It proved a vigorous grass when highly manured and watered, but not superior to sugarcane. Twenty mango trees of the finest varieties were planted out for stock, raising to 102 the number of trees whose grafts were suitable for distribution. The demand for imported seeds was about the same as in the previous year. The garden receipts amounted to £340 (Rs. 3400) and the charges to £768 (Rs. 7680). In 1881-82 the general condition of the garden was improving and the number of visitors was increasing. The receipts, derived chiefly from the sale of fruit trees, vegetable, and flower seeds, taraxicum, and some timber, amounted to £637 (Rs. 6370) and the charges to £1046 (Rs. 10,460). A mangosteen plant from Singapore died from cold in November. The local *kokam* or wild mangosteen plants were in good condition. Potatoes received from the Secretary of State grew surprisingly well. In May 1882 the carob tree yielded a crop of fully thirty pounds weight of pods, the greater part of which were equal in size to the imported pods. An attempt to propagate this tree by layering failed, but by grafting was very successful. 447 mangoes were grafted with choice sorts at a cost of 10½d. (7¹/₆ as.) each. The herbarium building was altered and repaired and numerous specimens were added. The superintendent Mr. Woodrow lectured on vegetable physiology and systematic botany and gave eleven garden demonstrations in systematic and economic botany. The average attendance was twelve students. Experiments were made in collecting the India rubber-yielding milky sap of the *Cryptostegia grandiflora*, a beautiful climber. The average yield was found to be twenty grains and the acre yield twelve pounds. As the plants would not bear tapping more than twice a year, the yearly acre outturn would be twenty-four pounds of caoutchouc. The cost of collecting was 2s. (Re. 1) the pound, which might perhaps be reduced to 1s. (8 as.). The value of the India rubber may be estimated at 2s. (Re. 1) the pound. The result was therefore

not encouraging. In 1883, 2001 mango trees were grafted with choice sorts at a cost of 10*d.* (6 $\frac{2}{3}$ *as.*) each, and in 1884, 4000 more were prepared at a, cost of 9*d.* (6 *as.*) each.

In the Bund Gardens, the Soldiers' Gardens, and the Railway Gardens in Poona plants and flowers are grown purely for pleasure and ornament. Details are given in the account of Poona City in the chapter on Places of Interest.

BLIGHTS.

The district is plot subject to blights. As has been noticed wheat is occasionally affected by a disease called *tambura* or rust when the ear turns copper-coloured and withers. It is also subject to another disease called *garva* or *khaira*. These causes of failure do not often occur on such a scale as to affect the general harvest.

FIELD PLAGUES.

Locusts.

The animal plagues from which the Poona crops are most liable to suffer are worms, locusts, and rats. The damage caused by worms is confined gram and other pulses and is seldom serious. According to Sanskrit books locusts and rats are two of the six deadly plagues or *its*. [The six plagues are Excessive rain, Want of rain, Locusts, Rats, Parrots, and an Invading force.] Of loss from locusts before the beginning of British rule no instance has been traced. Since 1818, four years, 1835, 1878-79, 1882, and 1883, have been marked by swarms of locusts. Of the 1835 Louis except a general reference to the damage done no particulars have been traced. [Bom, Gov. Rev. Rec 772 of 1837, 33-31.] In 1878-79, considerable damage was done by locusts to the early or *khari* crops in parts of Bhimthadi and Purandhar. [Mr. J. G. Moore, O. S.] In 1882, as in other parts of the Deccan, [In 1882, locusts appeared in Dharwar, North Kanara, Belgaum, Satara, Poona, Ahmadnagar, Nasik, Khandesh, Kolaba, Thana, and Ratnagiri.] locusts, probably the; *Acridium perigrinum*, [It is said to have been identified in Bombay with *Pachyfilus indicus*, a locust peculiar to India. Dr. Kirby of the British Museum thought it a variety of the *Acridium perigrinum*, Mr. J. Davidson, C. S.] appeared in Poona, but did comparatively little harm. During May, the locusts moved north and north-east from Dharwar and North Kanara where they first peered. They did not stay long in Poona and by the beginning of June most of them had passed north and were breeding chiefly in Nasik and Khandesh. In the

beginning of October 1882, young swarms came from Nasik and Ahmadnagar. From Poona they crossed the Sahyadris and passed into the Konkan. The injury caused by the locusts was confined to the west of the district. There were no locusts in Bhimthadi and Indapur, and few in Sirur or Haveli. In Maval about 160 square miles or about three-sevenths of the subdivision suffered. Of 582 villages in Khed, Purandhar, Junnar, and the Mulshi petty division, 208 villages suffered more or less severely and in these 203 villages in about one-fifth of the area attacked the *kharif* or early crops were entirely destroyed. Elsewhere the injury was slight, and no special measures of relief were found necessary. They did little harm to the *nachni*, *vari*, and *sava* crops, and here and there, they touched a little rice, but the mischief caused was trifling. They seemed to be unable to eat the mature grain of rice and *bajri*, and they fortunately did not arrive until close on the early harvest. When the crops were reaped, the locusts disappeared drifting west. Nothing more was seen of them until May 1888, when, especially in the west of the district, they returned in swarms and through the whole of May and June, wherever they alighted, they turned fields, groves, and hill-sides pink. After resting three or four days they flew east leaving the trees as green as when they came. Heavy rain seemed to do them no harm. Towards the middle of June they were seen in pairs. After pairing the males died, and after laying their eggs during the end of June and the beginning of July the females also died. They laid their eggs in all kinds of places, from the dry slopes of bare hills to swampy marshes. The female works her tail about two inches into the ground and lays one hundred to 150 eggs. She gives out a glutinous fluid which in dry soil forms a crust round the eggs like an earthnut or *bhuimug*. In damp places the earth does not stick to the fluid and the eggs, like yellow pins' heads, are left open to the air but apparently do not suffer. As soon as the locusts were known to be laying, orders were issued to destroy the eggs and the young locusts wherever they were found. The villagers were told that they must take an active part in destroying the eggs and that if they failed to exert themselves and their crops suffered, they would get no remissions. Each sub-division was divided into circles of three to six villages. Over each circle an inspector was placed belonging to the Revenue, Police, Educational, Forest, Vaccination, or Public Works departments, all branches of the administration zealously lending their aid. The inspector's duty was to urge the villagers to destroy the eggs and young locusts and to report daily whether the villagers were doing their duty. The efforts to destroy the eggs to a great extent failed. Where the ground was dry the holes were sometimes visible and eggs were found, but *in* most places the rain had washed away all trace of the hole and the search was fruitless. About the beginning of August

numbers of newly hatched locusts began to appear like small grasshoppers. To spread a knowledge of what the newly hatched locust was like the precaution had been taken to have eggs dug out of holes just after the female locust had laid, and kept in a frame enclosed by mosquito netting. When the frame locusts were hatched specimens were sent to each mamlatdar and shown to the people. Various means were adopted to destroy the young swarms. The Cyprus screen, introduced by Lieutenant Bor, R.N., was tried, but, as Lieutenant Bor admitted, it did not by the locusts was confined to the west of the district. There were no locusts in Bhimthadi and Indapur, and few in Sirur or Haveli. In Maval about 160 square miles or about three-sevenths of the subdivision suffered. Of 582 villages in Khed, Purandhar, Junnar, and the Mulshi petty division, 208 villages suffered more or less severely and in these 203 villages in about one-fifth of the area attacked the *kharif* or early crops were entirely destroyed. Elsewhere the injury was slight, and no special measures of relief were found necessary. They did little harm to the *nachni*, *vari*, and *sava* crops, and here and there, they touched a little rice, but the mischief caused was trifling. They seemed to be unable to eat the mature grain of rice and *bajri*, and they fortunately did not arrive until close on the early harvest. When the crops were reaped, the locusts disappeared drifting west. Nothing more was seen of them until May 1888, when, especially in the west of the district, they returned in swarms and through the whole of May and June, wherever they alighted, they turned fields, groves, and hill-sides pink. After resting three or four days they flew east leaving the trees as green as when they came. Heavy rain seemed to do them no harm. Towards the middle of June they were seen in pairs. After pairing the males died, and after laying their eggs during the end of June and the beginning of July the females also died. They laid their eggs in all kinds of places, from the dry slopes of bare hills to swampy marshes. The female works her tail about two inches into the ground and lays one hundred to 150 eggs. She gives out a glutinous fluid which in dry soil forms a crust round the eggs like an earthnut or *bhuimug*. In damp places the earth does not stick to the fluid and the eggs, like yellow pins' heads, are left open to the air but apparently do not suffer. As soon as the locusts were known to be laying, orders were issued to destroy the eggs and the young locusts wherever they were found. The villagers were told that they must take an active part in destroying the eggs and that if they failed to exert themselves and their crops suffered, they would get no remissions. Each sub-division was divided into circles of three to six villages. Over each circle an inspector was placed belonging to the Revenue, Police, Educational, Forest, Vaccination, or Public Works departments, all branches of the administration zealously lending their

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The people did not call the 1882 locust by the usual name of *tol* or the host-fly, but either *naktoda* that is nose-cutter or simply *kida* that is

insect. [Mr. W. Ramsay, C.S.] When born the 1882 locust was green and looked and acted like a cricket. As it grew, it shed its skin, became less green, and a brown streak appeared on its back and sides. It could almost always be known by its hammer head. When full grown it had a black streak from the bottom of the eye downwards. The wings were developed one above the other, the under wing was at first reddish and the upper wing gray, but the red tinge soon disappeared. About three months old, when they began to fly, the locusts were yellow. When full grown the body was about two and a half inches long and the folded wings, which had again turned pink, stretched nearly an inch further. In October and November in the backs of some of the full grown locusts between the wings small reddish tick-like parasites were found. It is not known whether these parasites caused suffering or mortality among the locusts. Another parasite found among locusts just coming to maturity was a stomach-worm like a guinea worm. This worm is said to have done the locusts no harm. No rewards were given for the destruction of locusts; the only expenditure was on screens and traps.

Rats

In 1878 rats appeared in several places and severely injured the *rabi* or late crops in the east of the district. Crops which Would have yielded a full or a three-quarters harvest were reduced to one-fourth or even less. In many places the people gathered the green ears as the only means of defence. Even then, when the ears were placed in a heap, it was difficult to keep the rats off by constant watching day and night. In 1879 the rats again caused much damage in Indapur and Bhimthadi. A reward of 2s. (Re. 1) for every hundred dead rats was offered and about 350,000 rats were destroyed. The rats were of three kinds, the Jerboa rat, the Mole rat, and the Large-eared field mouse. The Jerboa Rat, *Gerbillus indicus*, comes between the Kangaroo-like jerboa and the true rat. From January to March 1879 the Jerboa rats proved most widely destructive, and destroyed more grain than all the other rats together. It is called the *haran* or antelope rat. Its colouring is like that of the female antelope, its ears are prominent, and its eyes are large and gazelle-like. It is fawn-coloured above and white below. It has long black whiskers and a tuft of black or blackish hairs at the end of its tail. Its head and body are about seven inches long and its tail is more than eight inches long. Its forefoot is half an inch and its hind foot two inches long. It weighs six to seven ounces. It burrows among the roots of bushes or in the open ground and forms long galleries. These galleries have branches that, end in chambers which are several inches wide and are carpeted with dried grass. They do not

usually hoard their food, which consists of grain and roots, especially of the sweet roots of the *haryali* grass *Cynodon dactylon*. The female brings forth eight to twelve and sometimes sixteen to twenty young. In the dusk of the evening these rats, which may be recognized by their fine large eyes, may be seen leaping about in places where there are many fresh rat-holes. In 1879 they climbed the Indian millet stalks and cut off the ears. The Mole Rat, *Nesokia indica*, *kala undir*, also called *koku* or *kok* by the Vadars, may be known from the common Brown Rat, *Mus* documents, by its shorter body and shorter tail and also by being stouter and heavier. When chased it grunts like the bandicoot. In colour it is like the common brown rat, but there are fawn-tinted hairs mixed with the fur and it is lighter below. Its ears are small and round; its tail naked and short; its incisor teeth very huge, hat in front, and orange yellow. Its entire length is about thirteen inches of which the tail is six inches. The palm of its forefoot is nearly half an inch long and that of its hind foot an inch and a half. It lives alone and forms extensive burrows, sometimes fifteen or twenty yards in diameter. It stores large quantities of grain. The Vadars dig the ground and eat both the rat and its stores. The female brings forth eight or ten at a birth and drives her young from her burrow as soon as they can care for themselves. This rat is usually found near sugarcane fields. The people say that great numbers of these rats are yearly killed by the first heavy fall of the south-west rain. The black soil swells with heavy rain and the rats are caught in the holes and fissures and smothered. The great increase of these and of the *mettad* rats in 1879 is partly accounted for by the absence of any sudden burst of rain in 1878. Under the influence of gentle showers, the black soil swells gradually and the rats escape suffocation.. The large-eared Field Mouse, *Golunda mettada*, *mettad* or *mettangandu*, was one of the chief pests. It is a soft-furred mouse with a few flattened and spiny hairs among its fine close fur. Its colour is reddish brown with a mixture of fawn becoming lighter below. Its whole length is about ten inches of which the tail is 4.3 inches. It is distinguished by its large ears which are two-fifths of an inch in diameter. The female produces six or eight young at a birth. This rat has long been known as a plague. It lives entirely in cultivated fields in pairs or small societies of five or six, making a very slight and rude hole in the root of a bush or merely harboring among the heaps of stones thrown together in the fields, in the deserted burrow of the *kok*, or in deep crackup and fissures formed in the black soil during the hot months. Every year great numbers perish when these fissures fill at the beginning of the rains. In 1879 these rats ruined some fields with their sharp incisors cutting cartloads of stalks every night and either eating the grain or dragging the heads into their burrows. Into other fields an army of rats

suddenly entered and in a few hours ate up the grain like a flight of locusts.

FAMINES.

1397-1408.

During the last five hundred years, there is either traditional or historic mention of about twenty-five famines. The first is the awful calamity known as the Durga Devi famine which wasted Southern India at the close of the fourteenth century. The twelve years ending 1408 are said to have passed without rain. Districts were emptied of their people and for forty years the country between the Godavari and the Krishna yielded little revenue. The hill-forts and strong places, previously conquered by the Muhammadans, fell into the hands of local chiefs and robbers, and the country was so unsafe that the people who returned were driven from their villages. Dadu Narse and a Turkish eunuch of the Bedar court were appointed to resettle the land and call back the people. As the former village boundaries were forgotten, Dadu Narse greatly extended the new limits and threw two or three villages into one. Lands were given to all who would till them. For the first year no rent was required and for the second a *to bra* or horse-bag full of grain for each *bigha* was all that was asked. [Grant Duffs Marathas, 26, 27. See also Briggs' Ferishta, II. 349-50, King Mahmud Shah Bahmani (1378-1397) employed 10,000 bullocks at his private expense going to and from Malwa and Gujarat and bringing grain which was distributed to the people at a cheap rate. He also established seven orphan schools.]

1422

In 1422, no rain fell and famine raged throughout the Deccan multitudes of cattle died on the parched plains for want of water. King Ahmad Shah Vali Bahmani (1422-1435) increased the pay of his troops and opened public stores of grain for the poor. The next year also there was no rain. [Briggs' Ferishta, II. 405-6.]

1460

In 1460. [Except where special references are given the details of famines from 1400 to 1868 are taken from Lieut.-Col. Etheridge's Report on Famines in the Bombay Presidency (1868), 87-96.] In 1460 a failure of rain was followed by famine over the whole of Southern India. This famine is known as Damajipant's famine. Damaji was the

keeper of a large store of grain at Mangalvedha, twelve miles south of Pandharpur in Sholapur. He used much of the store in feeding Brahmans and was saved from punishment by the god Vithoba whom he worshipped. To save his worshipper Vithoba in the form of a Mhar went to the court at Bedar and paid the value of the missing grain.

1472-1473.

In 1472 and 1473 so severe a drought prevailed throughout the Deccan that the wells dried. No grain was sown for two years and in the third when there was rain scarcely any farmers remained to till the lands. [Briggs' *Ferishta*, II. 493-4.]

1520.

1629-30.

1787.

1791-92

In 1520, the Deccan was so unsettled that no crops were grown and there was a famine. In 1629-30, no rain fell in the Deccan and famine and pestilence followed. [Grant Duff's *Marathas*, 46; and Elphinstone's *History of India*, 507.] The year 1787 is mentioned as marked by a failure of rain and by famine. The year 1791-92, though locally a year of plenty, was so terrible a year of famine in other parts of India that the rupee price of grain rose to twelve pounds (6 *shers*).

1792-1793.

In the next year, 1792-93, no rain fell till October, some people left the country and others died from want. The distress is said to have been very great. The Peshwa's government brought grain from the Nizam's country and distributed it at Poona. The rupee price of grain stood at eight pounds (4 *shers*) in Poona for four months and in the west of the district for twelve months.

1802.

In 1802 the prospect of a good harvest was destroyed by the ravages of Holkar's troops. From July to September his followers the Pendharis so utterly ruined the country that the rupee price of grain rose to two pounds (1 *sher*). The Peshwa's government encouraged the import of

grain and distributed it free of charge. Large quantities of grain were brought by Lamans and Charans. Still the distress was so severe that numbers fled to the Konkan and Gujarat, and thousands died of hunger and cholera. The sufferings were so great that mothers are said to have eaten their children. Even as late as 1838 the people of Bhimthadi remembered Holkar's famine with horror [Bom. Gov. Sel. CLI. 41, 254.].

1803.

In the following year, 1803, the raids of Sindia's and Holkar's troops again caused a great scarcity. The rupee price of grain rose to half a pound ($\frac{1}{4}$ *sher*) and numbers died of starvation. Many left the country and the land lay waste. This famine affected the Poona district particularly. The river at Poona was covered with dead and rotting bodies. The Peshwa encouraged traders to import grain duty-free, granted remissions of revenue, and abolished land customs. The private charity of the rich did much to relieve the distress. A subscription of £4000 (Rs. 40,000), collected in Bombay under the patronage of Lady Mackintosh, was sent to Poona. Colonel Close, the Resident, who had already fed 15,000 people, arranged that each applicant for relief should receive 3*d.* (2 *as.*) to enable him to get a meal. About 5000 of the destitute were relieved in this way until the new crops were gathered. [Valentine's Travels, II. 123, 1.24.] At Poona the horses in General Wellesley's army were for some time fed on Bombay rice.

1819-1825.

In 1819-20, 1823, 1824, and 1825 Poona suffered greatly from cholera and from want of rain. So great was the panic that large numbers left their homes. For many months parts of the district were almost deserted. [Captain Chines' Itinerary, VI.]

1823-1825.

In 1823 the rupee price of grain in Poona was sixteen pounds (8 *shers*) and people died in the streets. In 1824, a year remembered as the year of *kharpad* or distress, rain again-failed, especially in the country within 100 miles of Poona. The returns seem to show a slight fall of prices, the rupee price being twenty to twenty-four pounds (10-12 *shers*). Much bad grain was sold and sickness was so general that large numbers of people left the country. The loss of cattle was very severe. The distress continued till *Dasara* in October when a timely fall

of rain brought much relief. Government offered employment by opening works to improve the Karkamb and Bapdev passes.

1832-1838.

In 1832 failure of rain was followed by much distress. The rupee price of *jvari* rose from 120 to forty-six pounds and grain robberies were numerous. Orders forbidding grain-dealers unduly raising their prices are said to have done much to reduce the distress. 1833 was a year of scarcity in Indapur, 1835 was a bad season all over the district, and in 1838 Indapur again suffered from want of rain. [Bom. Gov. Rev. Rec. 772 of 1837, 30-31.]

1844-1846.

The next bad years were 1844-45 and 1845-46 when rain failed and there was much distress especially in the east. [Bom. Gov. Sel. CVII. 32.37, 70-71, and 118.]

1862-1867.

Between 1862 and 1867 there was a succession of years of very short rainfall. In the east of the district during the five years, ending 1866 the average fall was only seven inches. In 1864 the rupee price of *bajri* and *jvari* rose to about seventeen pounds (8½ *shers*). The landholders were well off and were not reduced to distress, and the demand for labour and the high wages paid on public works in the Deccan prevented the spread of distress among the labouring classes. Still from want of grazing cattle had to be sent away or sold. There was sufficient distress to make it advisable to open relief-works in Sirur, Bhimthadi, and Indapur. About £1876 (Rs. 18,760) were spent on repairing about seventy-five miles of road and digging the Patas reservoir and two wells in Supa. Grain compensation was granted to Government servants and in 1867 £8000 (Rs. 80,000) were remitted in Bhamthadi and Indapur and upwards of £6000 (Rs. 60,000) were held over till the next year.

1876-77.

The scanty and ill-timed rainfall of 1876, 20.76 compared with an average of about thirty inches led to failure of crops, which, joined to the bad crops in a small area in the previous year, spread distress amounting to famine over about half of the district. [The estimate was in area 2500 square miles of a total of 6647, and in population

318,000 out of 907,000. Within the affected area came the whole of the Indapur and Bhimthadi sub-divisions, twenty-three villages of Purandhar, six villages of Haveli, and thirty-three villages of Sirur, where the crops had entirely failed. In addition to these, twenty villages in Purandhar, twenty in Haveli, and thirty-three in Sirur were seriously affected. In the Khed, Junnar, and Maval sub-divisions outside of the famine area there was distress among labourers and travellers.] The east and south-east suffered most. In three sub-divisions, Haveli, Khed, and Junnar, the early crops seemed good; in Maval and parts of Sirur and Purandhar they were fair; in the rest of Sirur and Purandhar and in Bhimthadi and Indapur there was no outturn. Besides this failure of the early harvest, in September and October, only a few slight showers fell, and, except in a small area of watered land, no cold-weather crops were sown. Millet rose from fifty-one to nineteen pounds and Indian millet from sixty-five to 20½ pounds the rupee. These high prices and the want of field-work threw into distress large numbers of Mhars, Mangs, Ramoshis, and the poorer labouring Kunbis. The need for Government help began about the close of September. Government offered to transport people to waste lands in the Central Provinces, but no one took advantage of the offer. At the same time large numbers moved to the Gangthadi or Godavari valley. They found much distress in Gangthadi and as the usual markets for field labour were overstocked, some wandered across Berar to Sindia and Holkar's territories, others crowded into Bombay, and a few straggled to Gujarat. By the close of 1876 about 100,000 persons or 32.00 per cent of the affected population had left their homes. Most of the people who went belonged to the better class of Kunbis. To a great extent the movement was caused by the need of pasture. As a rule whole families went, but in many cases some member or members of a family were sent with the cattle. The villages whence fewest went were those near the Mutha canal works in the north-west of Bhimthadi, where whole villages flocked to the works. There was much distress, but grain prices were kept down by large importations, chiefly from the Central Provinces and to a less extent from Gujarat. The grain was brought to Poona by rail and thence distributed throughout the district. [The municipality of Indapur purchased grain and sold it at something over cost price so as not to interfere with local enterprise; so did the Jejuri municipality but only in the end to re-sell at a loss. It is probable that the early action of Government in finding paid labour for a large portion of the distressed population on the Mutha canal saved grain] In the hot months of 1877 prices ruled high and distress increased. A good fall of rain in early June caused temporary relief. Many emigrants returned and sowing was actively pushed on. [More sickness, suffering, and mortality was

found among the returned emigrants than among those who had stayed at home and lived either on their own resources or on the relief offered by Government.]. But, except in Indapur, in July and August no rain fell, prices rose, distress grew heavier, and many were again forced to leave their homes. A good rainfall in September and October removed much anxiety and suffering, and cold-weather crops were sown over the greater part of Bhimthadi. At the close of November the demand for special Government help ceased. At the same time some of the early crops never recovered the long stretch of fair weather in July and August, and in Bhimthadi the cold-weather crops, which at first promised well, were afterwards much injured by disease. The result was renewed distress in the hot season of 1878, In the east of the district, at least one-fourth of the people lived on wild grains or grass seeds, and Government had again to provide labour for the poorer classes. Even then the famine was not over. In the rainy months of 1878 and again in those of 1879, direct relief was once more found necessary at Indapur, Baramati, and Dhankavdi near Poona. [In 1878, 77,068 people were relieved at a cost of £510 4s, (Rs. 5102); in 1879, 21 303 were relieved at a cost of £153 8s. (Rs. 1534).]

The following details show month by month the phases through which the distress passed and the measures which were taken to relieve it. In the first two or three days of September 1876 good rain fell in the west, in Junnar Khed and Maval, and greatly revived the withering crops. Rain again held off and the crops began to perish. About the close of September slight showers fell in a few places. The early crops seemed well in Maval; they were withering in Junnar, Khed, and Haveli, and had completely failed in Bhimthadi and Indapur where for want of fodder large numbers of cattle were dying. The price of grain was rapidly rising. As rain held off the ground could not be prepared for the cold-weather crop. Especially in Indapur and Bhimthadi the want of drinking water was beginning to be felt. Fears were entertained that the poorer classes would become disorderly, and, about the close of the month, relief works were opened in Bhimthadi and Indapur. Except that about the middle of the month a slight shower fell in Haveli, October passed without rain. Even in the west the early crops were withering and were being cut for forage, and in the wells water was failing. Except in a small area of watered land no cold-weather crops were sown. Over the whole district, especially in the east, the want of water caused distress, and cattle were offered for sale at nominal prices. In several places the people had begun to leave their homes. Extensive relief works were started, and, by the 22nd of October, including those on the Mutha canal, some 6000 people were employed. For charitable relief a sum of £2500 (Rs. 25,000) was set at

the Collector's disposal. As distress spread, besides additional assistants, the Collector was authorized to place on relief duty the mamlatdars of the most severely affected sub-divisions. November passed with only a few slight showers. The early crops continued to wither and the small area of late crops was dying for want of moisture. The distress was great, but large importations of grain kept down prices. In Poona the stock of grain was large and the market, was falling; in outlying towns prices were slightly rising. In the first half of the month *bajri* rose from 19¼ to nineteen pounds and *jvari* from twenty-two to 21¼ pounds the rupee; about the close of the month they again fell to 20³/₇ and 20¹/₈ pounds. In the east the wells were drying and water was scarce. The average daily number of people on the relief works rose from 6160 in the beginning to 28,455 at the close of the month. Of 20,654, the average daily number for the month, 14,253 were able-bodied, expected to do a full day's work and superintended by public works officers, and 6401 were aged or feeble expected to do two-thirds of a day's work and superintended by famine officers. [The original wages were, for a man 3d. (2 as,) a day, for a woman 2¼. (1½ as.), and for a boy or girl capable of work 1½d. (1a.). About the middle of November, when prices rose over sixteen pounds the rupee, a sliding scale was introduced which provided that the money rate should vary with the price of grain and that a man should always receive the price of one pound of grain in addition to 1½d. (1 a.).

The new rates were: for a man the price of one pound of grain and ¾d. (½ a.) instead of 1½d. (1a.); for a woman the price of one pound of grain and ⅜. (¼a.) instead of ¾d. (½a.) and for a boy or girl the price of half a pound of grain and ⅜d. ¼a.]

December passed without rain. Crop prospects remained unchanged, people and cattle continued to move west. During the month the importation of grain was large and *bajri* fell from twenty pounds in the beginning to twenty-three pounds about the close of the month, and *jvari* from 18¼ pounds to twenty-two pounds. The numbers on public works rose from 14,253 to 23,498 and on civil works from 6401 to 16,752. The total sum spent on charitable relief up to the close of the year was about £200 2s. (Rs. 2011).

January passed without rain. Grain kept pouring into the district, and *bajri* fell from twenty-three pounds to 23½ and *jvari* from twenty-two to 25¼ pounds. The numbers on public works rose from 23,498 to 23,764, and on civil works from 16,752 to 29,569. As the civil works seemed too popular, on the 19th of January Government reduced the

rates of pay, and issued orders to enforce task and distance tests. This caused afresh emigration and a considerable fall in the numbers on the works. At the same time charitable relief was started and by the end of the month distributed to 1694 persons.

About the middle of February sixteen cents of rain fell at Poona. Grain continued to come in large quantities, *bajri* rose slightly to twenty-three pounds and *jvari* to twenty-four pounds. The numbers on public worth fell from 23,764 to 23,034, and on civil works from 29,569 to 18,752. This decrease was chiefly due to the lowering of pay on the civil works, the transfer of the able-bodied from civil to public works, and the enforcement of task and distance tests. The number on charitable relief rose to 1766. During the month there was slight cholera in Bhimthadi and Purandhar. In the beginning of March about twenty-six cents of rain fell. Grain continued to pour in and the supply was plentiful. Except in the beginning of the month, when there was a small rise, prices remained at twenty-three pounds the rupee for *bajri* and twenty-four pounds for *jvari*. There was slight cholera in Bhimthadi and three other sub-divisions. The numbers on civil works continued to fall, from about 12,213 in the beginning of the month to 4876 about the close; public works showed a small rise from 23,034 to 26,603, and charitable relief from 1766 to 2290. About the middle of April eighty cents of rain fell at Indapur. Grain was largely imported and the supply continued plentiful, with *bajri* slightly dearer at $21\frac{3}{4}$ pounds and *jvari* at $20\frac{3}{4}$ pounds. There were a few cases of cholera, and cattle-disease was prevalent in Sirur and Haveli. The numbers relieved rose on public works from 26,603 to 31,678, and on charitable relief from 2290 to 4301; on civil works the numbers fell from 4876 to 4650. The first days of May brought slight showers in Purandhar, and about the close of the month good rain fell all over the district except in Junnar, Khed, and Maval. Small numbers were coming back. The grain supply continued ample, but *bajri* rose to $19\frac{3}{8}$ pounds the rupee and *jvari* to $19\frac{3}{4}$ pounds. The high prices caused much distress. During the month there was slight cholera over most of the district. The numbers relieved rose on public works from 31,678 to 40,177, and on charitable relief from 4301 to 7501; on civil works they fell from 4650 to 4612. In June an average of 6.78 inches of rain fell. Many landholders came back bringing their cattle. The sowing of the early crops was begun in the west; in the east sowing was much kept back from want of bullocks. Cattle-disease was prevalent in three sub-divisions and a few cases of cholera occurred. The supply of grain was sufficient and both *bajri* and *jvari* continued steady at $19\frac{1}{2}$ pounds the rupee. The numbers on public works fell from 40,177 to 35,344; they rose on civil works from 4612 to 4625, and on charitable relief from

7501 to 12,729. July passed with little rain, at average fall of only 3.24 inches, and this almost solely in the west. Except in Maval rain was everywhere wanted, the crops especially in Bhimthadi and the east were withering, and in many places field work was at a stand. The supply of grain was sufficient, but *bajri* rose to $14\frac{3}{8}$ pounds and *jvari* to $14\frac{1}{4}$ pounds. This caused much distress and in the south and east many were again preparing to start for the Bears. The numbers on public works fell from 35,344 to 26,786, on civil works from 4625 to 3552, and on charitable relief from 12,729 to 12,420. In August an average of four inches of rain fell, but it was chiefly confined to the west. Rain was wanted everywhere, particularly in Indapur, Bhimthadi, Sirur, and Purandhar. The rice crops in Maval were good, but in the east the crops were withering and in some places they had perished. In Bhimthadi and Purandhar, with some exceptions, the pulse was lost. The high prices, *bajri* at $12\frac{3}{4}$ and *jvari* at thirteen pounds, caused much distress. Many Bhimthadi landholders were preparing to leave their homes. Throughout the month cholera was prevalent. The numbers on relief works fell, on public works from 26,786 to 24,514, and on civil works from 3557 to 2003; on charitable relief they rose from 12,420 to 21,650. In September an average of 5.42 inches of rain fell. At first in the central sub-divisions, Junnar Khed and Haveli, there were only slight showers, but, about the close of the month, there was good rain, and the early crops, which except in Indapur had suffered severely, were much benefited. About the middle of the month the late or *rabi* sowing was begun, the poorer landholders in Bhimthadi finding great difficulty in obtaining seed and cattle. *Bajri* fell from $12\frac{3}{4}$ to $14\frac{5}{8}$ pounds and *jvari* from thirteen to $15\frac{3}{8}$ pounds. The people were improving, and cholera and small-pox were on the decline. The numbers on public works rose from 24,514 to 24,687 and on charitable relief from 21,650 to 24,474; on civil works the numbers fell from 2003 to 719. In October an average of 3.38 inches of rain fell. The prospects of the early crops continued favourable and the late sowing was in progress. The Bhimthadi cultivators' seed and cattle difficulty disappeared. The moneylenders came forward; the better class of Kunbis had generally stocks of their own; and a large proportion of Bhimthadi, chiefly along the Bhima, was tilled by the people of the west of the district and of Satara, who advanced seed and lent bullocks on the crop-share or *batai* system. [In 1876-77 the tilled area in Bhimthadi was 101,730 acres; in 1877-78, 372,088 and in 1878-79, 335,319 acres. In Indapur for the same years the areas were 9400 186,769, and 192,360 acres.] About the end of the month the sowing in Bhimthadi was greatly kept back by heavy showers. *Bajri* fell from $14\frac{5}{8}$ to $18\frac{5}{8}$ pounds, and *jvari* from $15\frac{3}{8}$ to nineteen pounds. The numbers on public works fell from 24,687 to 15,461, on civil

works from 719 to 122, and on charitable relief from 24,474 to 8209. The large decrease in the number on the relief works was mainly caused by people having left the works tempted by the better wages they could earn in the fields. Slight rain fell about the close of November. The *bajri* harvest was in progress and the late sowings were finished. In four sub-divisions the *jvari* crops were slightly damaged by blight. In some parts, owing to the want of bullocks, the tillage had been slovenly, and in many places the *jvari* crops were choked with weeds. On the whole the outlook was promising. *Bajri* fell to twenty-two pounds and *jvari* to 23½ pounds. The numbers on public works fell from 9621 in the first days of the month to 1788 about the close, on civil works from 122 to fifty-three, and on charitable relief from 8209 to 1550. At the end of November all relief works were closed. December passed with a few slight showers. *Bajri* fell to 23¼ pounds and *jvari* to twenty-five pounds. Government continued to offer charitable relief, but on the 22nd of the month the number seeking relief had dwindled to 180.

The following statement of average monthly millet prices and numbers receiving relief, shows that, during the first quarter of 1877, grain kept pretty steady at twenty-three pounds the rupee or more than twice the ordinary rate, that its price rose rapidly till it reached 12¾ pounds in August, and that it then quickly fell to 23½ pounds. As early as December 1876 the numbers on relief works reached 40,250, and in January 1877 rose to 53,333. In February, by lowering wages and enforcing task and distance tests, the total was reduced to 41,786, and in March it fell to 33,223. From that it rose to 44,789 in May, and then began gradually to fall. From June to September the decrease was slow, it was rapid in October, and in November the works were closed. The numbers on charitable relief rose steadily from 1694 in January to 12,729 in June; then with a slight fall to 12,420 in July they rose to 24,474 in September, In October they rapidly declined to 8209, in November to 1550 and in December to 180 when almost all the relief-houses were closed:

POONA FAMINE, 1876-77.

MONTH.	AVERAGE DAILY NUMBERS.				AVERAGE PRICES.		RAIN.
	Civil.	On Relief.					
		Public.	Total.	Charity.	<i>Bajri.</i>	<i>Jvari.</i>	

1876.					Pounds.	Pounds.	Inches.
November	6401	14,253	20,654	--	19	20½	Slight.
December	16,752	23,498	40,250	--	20¾	19¾	--
1877.							
January	29,569	23,764	53,333	1694	23⅛	22¾	--
February	18,752	23,034	41,786	1766	23	24	.02
March	6620	26,603	33,223	2290	22⅔	23⅔	.26
April	4650	31,678	36,328	4301	21¼	21¼	.10
May	4612	40,177	44,789	7501	19¾	19¾	.89
June	462	35,344	39,969	12,729	19½	19½	6.48
July	3567	26,786	30,343	12,420	14¾	14¼	3.24
August	2003	24,514	26,517	21,650	12¾	13	4.00
September	719	24,687	24,406	24,474	14⅝	15 ⅜	5.42
October	122	15,461	15,583	8209	18 ⅝	19	3.32
November	53	4738	4791	1550	22	23½	.30
December	--	--	--	180	23⅔	25	--
Total	98,435	314,537	412,972	98,764	--	--	20.03
Average	7572	24,195	31,767	8230			
Total Rs.	--	--	1,375,966	230,149			
			1,606,115				

Within the famine area carts could hardly be hired. When they took fodder and grain to the relief works from other parts of the district, the charges were seldom higher than the ordinary rates. Except in December 1876, when a cart cost 2s. 6d. (Rs. 1¼) and in January 1877, when it cost 3s. (Rs. 1½) a day, the daily rate for a cart was 2s. 9d. (Rs. 1⅜).

A special census, taken on the 19th of May 1877, when famine pressure was general and severe, showed that of 48,051 workers, 42,304 on public and 5747 on civil works, 30,030 belonged to the sub-divisions where the works were carried on, 11,011 belonged to other sub-divisions of the district, 4701 were from other districts, and 1649 were from neighbouring states. As regards their occupation, 2096

were manufacturers or craftsmen, 24,285 were holders or under-holders of land, and 21,070 were labourers.

In 1877 relief-houses were opened for the infirm poor. Thirty-three houses were opened and maintained at a cost of £22,838 (Rs. 2,28,380). Of twelve houses with a cost of £6949 (Rs. 69,490) in Bhimthadi, two at Baramati and Pandare were opened in April; three at Supa, Patas, and Jalgaon-Kharepathar, in May; one at Pimpalgaon, in June; four, at Pargaon, Khadki, Boribyal, and Shirsuphal, in July; and one at Yevat, in August. Of eleven in Indapur at a cost of £9551 (Rs. 95,510), eight, at Indapur, Kalas, Nimbgaon-Ketki, Varkute-Budruk, Madanvadi, Lasurne, Shetphal-Haveli, and Palasdev, were opened in July; two, at Bavda and Hingangaon, in August; and one at Akola, in September. Of seven, with a cost of £2865 (Rs. 28,650) in Sirur, there was one each at Ghodnadi, Ranjangaon-Ganpati, Talegaon, Nirvi, Mandavgaon, Karde, and Alegaon. Of two, with a cost of £2212 (Rs. 22,120), in Haveli, one was at Dhankavdi and the other at Loni-Kalbhar. One with a cost of £1260 (Rs. 12,600) was opened at Jejuri in Purandhar Except at Patas in Bhimthadi, which had to be kept open till the 28th of February 1878, all the relief-houses were closed on the 80th of November 1877. As a rule the death rate in the Poona relief camps was low. It was highest in the relief camp at Dhankavdi close to Poona. Except at Dhankavdi no camps were built, the villages were almost deserted and the people were able to house themselves and to live in rest-houses. At Supa and Jejuri large empty houses were rented and a few cheap sheds were built. The relief-house at Dhankavdi was reopened for a few weeks in July 1878 when the rains held off.

The most marked features of the famine in Poona were the efforts of the landholders to help themselves, and the steady flow of grain into the markets, so that, from about the end of October 1876 to the close of the famine in October 1877, no great difficulty was found in keeping the labourers supplied with grain at rates very slightly in excess of Poona rates. As soon as signs of scarcity began the Kunbis left their houses in large numbers to find fodder for their cattle and food for themselves. In contrast to the Kunbis, the Mhars Mangs and Ramoshis, from indolence and perhaps from the fear that if they left their villages they might forfeit their hereditary rights, would not leave their villages to go to the relief works. At first they were disinclined to take direct relief, and clamoured for employment in their own villages. Later they became demoralized, and many capable of work swelled the numbers on charitable relief. It was customary to send large drafts to the public works, feeding them at certain villages on the way. The low-

caste labourers sent distances of forty to fifty miles started willingly, but after getting refreshed at the staging villages dispersed and made their way back to their homes.

Early in the famine, Bhimthadi, Purandhar, and Haveli were placed under the famine charge of Mr. A. Keyser, first assistant collector; Indapur was placed under Mr. W. M. Fletcher, of the revenue survey, who had sole charge of all relief operations in that sub-division, and subsequently of twenty-nine villages in the east of Bhimthadi; and Sirur, Khed, Junnar, and Maval were under Mr. E. C. Ozanne, assistant collector, of the first of which he had also the revenue charge. Mr. Keyser was assisted by Mr. H. L. Holland of the revenue survey, who was however sick and on privilege leave from November 1876 to March 1877 and again permanently invalided in July when he went home on sick leave, and also from February 1877 by Mr. W. P. Symonds, assistant collector, who, from its establishment in August 1877, was placed in charge of the Dhankavdi relief camp, until October when he relieved Mr. Ozanne. Besides these officers, Mr. A. L. P. Larken, assistant collector, was entrusted with the organization of the Mutha canal and Nira canal labour gangs and with settling land compensation cases. In October 1876 the mamlatdars of Indapur and Bhimthadi, and in November and December, those of Sirur and Purandhar were put on famine relief duty; and in August 1877, the mamlatdar of Maval was placed under Mr. Symonds on the Dhankavdi relief camp. [The mamlatdar of Indapur was Rav Saheb Vishnu Vasudev, of Bhimthadi Rav Saheb Ganesh Bhivrav, of Sirur Khan Saheb Shamsudin Alikhan, of Purandhar Rav Saheb Sitaram Dadaji, and of Maval Rav Saheb Mahadev Pundlik.]

In 1877 the famine area was divided into thirty-seven relief circles, each under an inspector. Twelve of these, Pimpalgaon, Yevat, Pargaon, Patas, Supa, Murti, Pandare, Jalgaon-Kharepathar, Baramati, Ravangaon, Shirsuphal, and Malad, [The last three, each of nine villages, were under Mr. Fletcher.] of seven to fifteen villages, were in Bhimthadi; ten, Bavda, Vadapuri, Nimbgaon- Ketki, Lasurna, Kalas, Bhigvan, Palasdev, Kalthan, Agoti, and Hingangaon, [Indapur is omitted as it was managed by the municipality.] of seven to ten villages, were in Indapur; eight, Mandavgaon, Nirvi, Karda, Kondhpuri, Malthan, Sirur, Pabal, and Shikrapur, of five to eleven" villages, were in Sirur; four, Rajuri, Jejuri, Valha, and Guroli, of nine to thirteen villages were in Purandhar; two, Loni-Kalbhar of eleven and Ashtapur, of ten villages, were in Haveli; and one, Lakhangaon of seven villages, was in Khed.

The difficulties in the way of effective relief were lightened by the tractable, and, in the case of the cultivators, the self-helpful character of the people. At first the village officers were directed to feed travellers in obvious need of food. In consequence of this order men wandered from village to village living as destitute travellers, so that it became necessary to modify the orders and limit the number of villages where travellers might be relieved to a few on the main thoroughfares. These adult malingerers kept in fair condition, but their children were often painfully reduced. The wanderers were not confined to the low castes. Numbers flocked into Poona, where a private association dealt somewhat indiscriminate charity, and streamed towards Bombay from Poona, Satara, and Sholapur. In August all beggars were turned out of Poona, a relief camp was established at the village of Dhankavdi about three miles to the south of the city, organized private charity was stopped, and those in need of relief were taken to the camp, whence when fit for work they were drafted to relief works or sent to their own homes. People were also collected in Bombay and Thana and sent by rail to the camp near Poona at Government expense. Another difficulty was, that, before the task or any other test was established, people rushed to the relief works in such numbers that it was difficult to deal with them, except at a great waste of public money. Works under civil agency had often no supervising establishment beyond one or more inexperienced and temporarily employed clerks. In some cases there were as many as 1500 to 2000 workers, and in one case for a short time more than 4000 workers on one civil agency work. The result was a pretence of work, insufficient return for large expenditure, and, very probably, some amount of fraudulent gains on the part of the clerks. With the establishment of the distance and task tests and the opening of the Nira canal, the Dhond-Manmad railway embankment, and other large and well organized works under the Public Works Department, these difficulties disappeared and the civil agency works were entirely set apart for such persons as were incapable of hard work. The difficulty then was to find work which the weakly could do and to provide for the enormous preponderance of women. It was necessary to employ a few able-bodied men on civil agency works, while almost the only suitable employment that could be found was clearing silt from old ponds, and throwing gravel on roads and clearing stones from them. Next it was found difficult to enforce the tests without causing serious suffering and loss of life. The unwillingness of the low-caste people to leave their homes has been noticed. There was a natural unwillingness, on the part of all classes, to tramp long distances with their women and children, and work without much shelter at night or provision for the first few days, while in the case of those unaccustomed to continuous

work there was sheer inability to perform even the moderate task required. Poona was singularly favoured in having many large and well-organized works in progress, and in almost all cases the difficulties were successfully overcome by a judicious system of advances, watchfulness on the part of the officers in charge of the works, the system of credit with the grain-dealer which soon sprang up, and the wearing off of the feeling of strangeness in the lives of a population, who, if not well-to-do, had no former experience of the actual pinch of hunger. The total cost of the famine was estimated at £160,611 (Rs. 16,06,110), of which £137,596 (Rs. 13,75,960) were spent on public and civil works, and £23,015 (Rs. 2,30,150) on charitable relief.

Except that the rice crops suffered from petty thefts in the harvest of 1877, and that small stores of grain were taken out of deserted houses, there was a striking freedom from crime. Compared with the former year the criminal returns showed a total increase of 1527 offences, which in the commissioner's opinion, were due to the famine, being chiefly thefts and other offences against property and person. [The chief details are, an increase under murders of 3; under attempt or abetment of suicide, 6 ; under robbery, 16 ; under lurking house-trespass or house- breaking, 154 ; under mischief, 31; under theft of cattle, 183 ; under ordinary theft, 1251 ; and under receiving stolen property, 95.] There are no statistics of the numbers either of the men or of the cattle who left the district and did not come back. It is believed that fully a fourth of the emigrant population never returned, and about four-fifths of the cattle taken away were never brought back. Among the people the estimated special mortality was about 8300 souls, but compared with 1872 the 1881 census shows a fall of 20,732. The addition of the normal yearly increase of one per cent during the remaining seven years gives 85,223 as the loss of population caused by death and migration in 1876 and 1877. Of cattle, besides those that died, many thousands were sold at very low prices. [The decrease of cattle through deaths and other causes arising from famine has been estimated at near 110,000.] Though very great, the loss of stock did not interfere with field work. The tilled area in 1877-78 fell short of the 1875-76 area by 7476 acres . Of a land revenue of £116,004 (Rs.11,60,040), for collection in 1876-77, £70,321 6s. (Rs.7,03,213) were recovered by the close of the year. In 1877-78, of a land revenue of £117,013 (Rs 11,70,130) £110,147 14s. (Rs. 11,01,477) were recovered. Of £114,894 18s. (Rs.11,48,949), the realizable land revenue of 1878-79, £104,030 10s. (Rs.10,40,305), and of the balances, £12,091 2s. (Rs.1,20,911) were recovered. By the 1st of January 1880 the outstanding balance rose to £46,488 of which in

June 1880 about £42,981 (Rs. 4,29,810) were remitted. In the east of the district some villages were deserted and others were half empty. The cultivation was far below the average and the number of cattle enormously decreased. With ordinary harvests it seemed probable that at least ten years would be required to restore the country to its former prosperity.

1878-79

In 1878-79, in Sirur, Purandhar, Bhimthadi and Indapur the kharif or early crops were almost entirely destroyed by too much wet. In Indapur they were also choked by an extraordinary growth of weed. Half crops were obtained in Sirur and in parts of Purandhar and Bhimthadi, but in places considerable damage was done by locusts and other insects. The rabi or late crops promised well till as they began to ripen the rats committed fearful havoc.

The price of grain continued exceedingly high and at the beginning of the hot weather the poorer classes of Indapur showed signs of suffering. To relieve the distress at various places in Indapur work was opened on the Nira Canal. Piece-work was exacted from the able-bodied, and the weak and sickly received subsistence wages. During May, June, and July, nearly 10,000 people were daily employed. Between 200 or 300 who were unfit for work, were cared for in a relief-house in Indapur. The total cost was £663 12s. (Rs. 6036).

CAPITAL

CAPITALISTS.

IN 1872, according to the census, besides well-to-do husbandmen and professional men, 12,028 persons held positions implying the possession of capital. Of these 1464 were bankers, moneychangers, and shopkeepers; 7608 were merchants and traders; and 2956 drew their incomes from rents of houses and shops, from funded property, shares, annuities, and the like. Under the head of capitalists and traders, the 1880-81 license tax assessment papers show 2460 persons assessed on yearly incomes of more than £50 (Rs. 500). Of these 1229 had £50 to £75 (Rs. 500-750); 429 £75 to £100 (Rs. 750-1000); 304 £100 to £125 (Rs. 1000-1250); 119 £125 to £150 (Rs. 1250-1500); 136 £150 to £200 (Rs. 1500-2000); 105 £200 to £300 (Rs. 2000-3000); sixty £300 to £400 (Rs. 3000 - 4000); twenty-seven £400 to £500 (Rs. 4000 - 5000); twenty-four £500 to £750 (Rs. 5000-

7500); thirteen £750 to £1000 (Rs. 7500-10,000); and fourteen over £1000 (Rs. 10,000). Besides these the 1879 papers showed 12,976 persons assessed on yearly incomes of £10 to £50 (Rs. 100-500). Of these 6402 had £10 to £15 (Rs. 100-150); 3673 £15 to £25 (Rs. 150-250); 1923 £25 to £35 (Rs. 250-350); and 978 £35 to £50 (Rs. 350-500). [The 1879 figures are given because incomes under £50 (Rs. 500) have since been freed from the license tax.]

From 1750 to 1817 Poona was the capital of the Peshwas and the resort of the great officers and feudatories of the state with their numerous followers. During this time Poona was probably the richest city in Western India. In 1798 the exactions of the last Peshwa Bajirav II. and, in 1802, of Yashvantrav Holkar stripped the people of Poona of much of their wealth. Still in 1817, when it passed under British rule, Poona was a rich city where skilled craftsmen centered and large sums were spent. The capitalists of Poona suffered considerably by the change from Maratha to British rule. About one-third of the capital was driven from the market. Poona ceased to be the seat of government and the residence of its numerous ministers and officers. The great purchases of jewels, shawls, embroidered cloths, and other valuable articles came to an end and trade declined. Under the Peshwas much of the revenue from their widespread possessions centered in Poona. The money came either by bills drawn from the districts upon the Poona banks, or if it was paid in cash it passed through the hands of bankers, who profited by the exchange of coins before the collection reached the public treasury. Poona bankers had their agents in the districts and the ramification of the money trade in loans to the people and to the renters of villages created a wide circulation of specie, which returned to the coffers of the Poona bankers with an abundant accumulation of interest. Loans of this nature were usually repaid in grain which was received at a price much below the market rate, and thus brought great returns to the lenders. Under the British revenue system all these advantages to the capitalists disappeared. The trade in moneylending was still further hindered by the substitution of suits in courts instead of the former private methods of dunning debtors. The merchants were forced to be more cautious in their speculations and to look more to individual character and collateral security.

[Deccan Riots Commission Report, Ap. C, 270, 271.] A few bankers failed from bad debts contracted by broken-down nobles and officials. About 1821 business was very dull in Poona. Many rich bankers had fallen into poverty. [Captain H. D. Robertson, Collector (1821), East India Papers, IV. 588, 589, 593] Before 1850 the period of Poona's greatest depression had passed, It remained the residence of many of the pensioned Maratha nobles and the head-quarters of the district of

Poona and a very large military station. About 1835 it became the resort of the Governor and Council of Bombay between June and October and the head-quarters of the Bombay army for part of the year. Since the opening of the southern branch of the Peninsula railway in 1858, Poona has continued to increase in size, trade, and wealth. At present (1883) in the city and cantonment of Poona, besides the branch of the Bombay Bank, forty to fifty firms have a capital of £10,000 (Rs. 1,00,000) and upwards, about eighty firms have £5000 to £10,000 (Rs. 50,000-1,00,000), and about 250 have £1000 to £5000 (Rs. 10,000 - 50,000). In Junnar, the place of next importance, the seat of Musalman governors in the times of the Bahmanis (1347-1489) and of the Moghals (1637-1760), one firm has a capital of about £10,000 (Rs. 1,00,000), about five have £5000 to £10,000 (Rs. 50,000-1,00,000) and about forty have £1000 to £5000 (Rs. 10,000-50,000). In the rest of the district, in Baramati Indapur Sasvad and Sirur, about seven firms have a capital of about £10,000 (Rs. 1,00,000), about seven have £5000 to £10,000 (Rs. 50,000-1,00,000), and 200 to 800 have £1000 to £5000 (Rs. 10,000-50,000). A large proportion of these firms lend money on mortgage and do not trade. The men of capital are chiefly Gujarat, Marwar, and Lingayat Vanis, and local Brahmans. A few Chambhars, Kunbis, Malis, Marathas, Mhars Sonars, and Telis with small capital are scattered over the district, and in the city and cantonment of Poona are several rich Europeans, Jew, Musalman, and Parsi firms.

[Rav Saheb Narso Ramchandra, Secretary Poona Municipality.] Gujarat Vanis, of whom there is a large colony at Supa in Bhimthadi, are said to have come to the Deccan about 250 years ago when Surat was the chief centre of trade in Western India (1608-1658). They appeared as travelling dealers in foreign spices and groceries, visiting the Deccan in the fair season. After a time they settled as grocers in different parts of the district, and taking to moneylending soon grew rich. They are still considered foreigners, and except in dress keep all Gujarat customs and manners, and visit their native country every three or four years to perform marriage and other ceremonies. They have increased under the British, though of late years their number has been stationary. Except a few rich traders and bankers in the city of Poona, most Gujarat Vanis are petty shopkeepers, traders, and moneylenders. The Marwar Vanis came later than the Gujaratis, but were settled in the district in large numbers before the beginning of British rule. They were looked on with disfavour by the Marathas as aliens who took hoards of money to their native country, and as Jain heretics their temples were often turned to the use of Brahmanic or local gods. [Deccan Riots Commission Report, 23.] Many have settled

in the district within the last forty years. [The head-quarters of Bombay Deccan Marwaris is the town of Vambori the Rahuri sub-division of Ahmadnagar, about fifteen miles north of Ahmadnagar city. It is the seat of a large Marwari community and is the centre of their exchange and banking business. The proportion of Marwaris in Poona is not so large as in Ahmadnagar, where in some places they have almost a monopoly of moneylending. Deccan Riots Commission Report, 23.] In Poona as in Nasik and other parts of the Presidency the great reductions in rent that were made between 1837 and 1850 left the landholder with a margin, of which before long the Marwari gained the chief share. They usually begin business as clerks and servants of established shopkeepers and lenders. While working as clerks, generally by buying old gold lace and embroidered clothing or broken glass bangles and by saving, they put together a little capital. When the clerk has gathered enough capital, he severs his connection with his master and starts as a shopkeeper and moneylender. In this way new shops are being continually opened. Rich and long-established Marwari firms are careful to do nothing to injure their good name. On the other hand, as a class, the small Marwaris are unscrupulous as to the means they use for making money. Still though harsh and unscrupulous to his debtors, even the petty and pushing lender and shopkeeper as a rule deals straightly with his own people and with other traders. The Marwari lender's chief characteristics are love of gain and carelessness of local opinion. He has much self-reliance and great industry. He has usually education enough to understand the law and procedure of the courts to which he often resorts. He is an excellent accountant and is generally quick witted in, all that concerns his business. Knowing that the people look on him as a stranger and a hardhearted usurer he holds aloof from them and has no sympathies with them. He burdens himself with as few permanent investments as possible, and like the Gujarat Vani goes to his native country for marriage and other ceremonies. Besides as a moneylender and general broker he is employed as a retail and wholesale dealer in groceries, grain, and cloth. Lingayat or Karnatak Vanis are chiefly ironmongers and grocers and are seldom moneylenders. Brahman capitalists who belong to the district are mostly Konkanasth Brahmans in towns and Deshasth Brahmans in villages. Except a few in the city of Poona, who are printers, booksellers, and publishers of newspapers, the town Brahmans who engage in trade are bankers and moneylenders, and the village Brahmans who engage in money lending belong to the village accountants' or *kulkarnis'* families. Kunbis and other smaller capitalists work in the fields and at their crafts besides engaging in moneylending. Parsi and Musalman capitalists are contractors,

landholders, and traders, and the few Europeans are agents of Bombay firms trading in Poona, or are independent traders.

SAVING CLASSES.

Of townspeople, merchants, traders, shopkeepers, brokers, pleaders, doctors, contractors, and highly paid Government servants; and of country people, landlords, petty shopkeepers, and moneylenders, and a few rich cultivators save money. Traders spend much of their savings in adding to their business. With all classes of natives, except Marwar and Gujarat Vanis, the favourite investment is ornaments and jewelry. Next to ornaments come land and house property and lending money on mortgage. Government savings banks and Government securities are resorted to by the higher classes of townspeople who cannot make a better use of their money and by others as a safeguard against loss and because they can take out the money whenever they want it. Formerly considerable sums were invested in private native banks, chiefly by friendless widows and others, who got six per cent interest. But savings banks and Government securities, though they pay only $3\frac{3}{4}$, 4, and $4\frac{1}{2}$ per cent, have greatly reduced this form of investment. Joint stock companies are not popular except with those who have business connection with Bombay. European Government officers have generally accounts with the Poona branch of the Bombay Bank or with Bombay firms. The twelve years ending 1882 show a considerable though not a constant increase in the advantage taken of the two forms of investment provided by Government savings banks and Government securities. In 1870-71 the deposits in the savings banks at Poona and other sub-divisional towns amounted to £12,278 (Rs. 1,22,780). They rose to £38,544 (Rs. 3,85,440) in 1873-74, fell to £22,352 (Rs. 2,23,520) in 1874-75 and remained with little change till they rose to £37,268 (Rs. 3,72,680) in 1879-80 and to £65,055 (Rs. 6,50,550) in 1880-81. This great increase was owing to the rise in the highest amount of a single deposit from £150 to £500 (Rs. 1500-5000). In 1881-82 as the amount of greatest deposit was again lowered to £150 (Rs. 1500), the deposits fell to £38,321 (Rs. 3,83,210); they rose to £41,468 (Rs. 4,14,680) in 1882-83. New savings banks have also been recently opened in connection with post offices. The depositors are Hindu traders, Government servants, and landholders. During the thirteen years ending 1882-83 the interest paid on Government securities has risen from £5755 (Rs. 57,550) in 1870-71 to £7512 (Rs. 75,120) in 1882-83. The increase, though considerable, has been far from steady. The amount dropped from £5755 (Rs. 57,550) in 1870-71 to £4131 (Rs. 41,310) in 1872-73, and from that rose steadily to £9116 (Rs. 91,160) in 1878-79. It fell to

£6898 (Rs. 68,980) in 1879-80, rose to £8805 (Rs. 88050) in 1880-81, and again fell to £7156 (Rs. 71,560) in 1881-82 and £7512 (Rs. 75,120) in 1882-83. The details are:

Poona Savings Banks and Government Securities, 1870-1882

YEAR.	Savings Banks Deposits	Government Securities Interest.	YEAR.	Savings Banks Deposits	Government Securities interest.
	£.	£.		£.	£.
1870-71	12,278	5755	1877-78	22,305	7179
1871-72	20,353	5820	1878-79	22,697	9116
1872-73	21,820	4131	1879-80	37,268	6898
1873-74	38,544	5830	1880-81	65,055	8805
1874-75	22,352	6099	1881-82	38,321	7156
1875-76	23 847	6427	1882-83	41,468	7512
1876-77	26,194	6688			

[BRANCH BOMBAY BANK.](#)

A branch of the old Bank of Bombay was opened in Poona early in 1862. During the speculations which accompanied the American War it carried on a large business in local advances and in the purchase of bills on Bombay. With the close of the war business collapsed and in 1868 the old Bank of Bombay was placed in liquidation. The Poona Branch was taken over by the new Bank of Bombay and shortly after the Government local treasury was made over to its care. Deposits are held by the Bank to a moderate extent; but there is little or no profitable employment for its funds in Poona, as the requirements of local traders are for the most part supplied by local native moneylenders, who afford facilities against which the Bank cannot

compete. The branch has been of much use to Government in financing for the heavy requirements of the local Treasury, as well as to the European residents who use the branch freely for all purposes of ordinary banking.

BANKERS.

[Rav Saheb Narso Ramchandra, Secretary Poona Municipality.] No native firms confine themselves to banking; all are also moneylenders and traders. The chief bankers are found in Poona and are generally Gujarat and Marwar Vanis and local Brahmans. Some Poona bankers have dealings with Bombay; with Ahmadabad, Baroda, Broach, and Surat in Gujarat; with Ajmir, Jaypur, and Udepur in Rajputana; with Karachi and Haidarabad in Sind; with Dhar, Gwalior, and Indur in Central India; with Akola, Nagpur, and Umravati in Berar; with Agra, Allahabad, Benares, Calcutta, Delhi, Kanpur, and Lucknow in Northern and Eastern India; with Aurangabad and Haidarabad in the Nizam's country; with Belgaum, Dharwar, and Karwar in South Bombay, and with Bellari in Madras; and the main towns along the highway leading to the shrine of Rameshvar in South India. Where there is no agency a bill or *hundi* is given on a banker in the nearest large town and is cashed by the bankers of the smaller places in the neighbourhood. Local payments are made in silver and beyond district limits in bills of exchange or *hundis*. The rates of commission for a *hundi* range from a quarter to four per cent, being high during the busy season October to May. When the firm issuing the bill has a large balance at the agency, as they tend to adjust accounts without the cost of sending bullion, bills are issued at par. Under ordinary circumstances the highest sum for which a bill can be cashed in Poona without notice may be taken at £400 (Rs. 4000) and after notice at £2500 (Rs. 25,000), and in the other banking towns at about £100 (Rs. 1000).

Bills.

[Steele's Hindu Laws and Customs in the Deccan.] The two most usual forms of exchange bills or *hundis* are bills payable at sight called *darshani* and bills payable after an interval generally of less than nine days called *mudati*. Bills are of three kinds, personal or *dhanijog* when the grantee is the person to whom or to whose order the payment is to be made; on trust or *shahajog* when payment is made to a nominee of the grantee known to the payer; and descriptive or *nishajog* where a description of the payee is embodied in the bill. It is not usual to draw bills in sets. A letter of advice to the agent or banker, stating the amount drawn, the number of the bill, and the name of the person to

whom or in whose favour the bill has been granted, is considered enough. Bills before they reach the correspondent of the drawer are in some cases several times sold, and the purchasers endorse them each time with their signatures or *bechans*. When the amount of the bill is remitted in cash, by another bill, or in any other form, the bill is signed by the payee, returned to the grantor, and filed as a voucher or *khoka*. Unless the bill is *binajabti*, that is unless it requires no letter of advice, it is usual for the correspondent of the grantor to send a letter of advice, intimating the payment of the money to the payee. No days of grace are allowed. The bill, if demanded, must be cashed on the specified day. If the payer delays, monthly interest is charged varying from one-half per cent if the drawer is a banker to three-quarters per cent if the drawer is a merchant. If payment is asked before the bill falls due, discount at a similar rate is charged. If the bill is dishonoured and sent back uncashed, the grantor must pay interest at double the rate of current interest from the date when the bill was bought. He must also pay a non-acceptance penalty or *nakrai*, which varies in different places. Carriage was also formerly charged according to the distance the bill had travelled.

If the bill is lost or stolen a duplicate or *peth* letter stating the amount of the bill and asking for payment is usually granted. If the duplicate letter is lost, a triplicate or *parpeth* mentioning both the bill and the duplicate is issued; and, if the triplicate is not forthcoming, an advice or *jab* mentioning the bill, the duplicate, and the triplicate, is sent to the same effect. The payer must satisfy himself as to the identity of the bearer of the bill and in doubtful cases should demand security before payment is made. If he pays the wrong man he has to bear the loss, and pay a second time to the holder of the duplicate and the triplicate. The payee in the case of an advice letter or *jab* passes a separate receipt, while the bill, the duplicate, and the triplicate are simply endorsed. After payment the banker debits the drawer with the amount paid. If a drawer, overdraws his account, and the bill is lost or dishonoured, he alone is responsible. It is usual after endorsing them to sell bills to bill-brokers or *dalals*, who are paid brokerage at the rate of $2/8 d$ ($1/2$ a.) on every £10 (Rs. 100) bill. As treasure is seldom sent, bills are generally adjusted by debits and credits and exchange bills or *badli hundis*, whose rates, vary according to the conditions of the transaction. The drawer pays commission or *hokshai* to the correspondent who disburses cash to the payee, and both drawer and purchaser pay a brokerage or *dakuli* for the sale of *badli hundis*. The interchange of bills has been greatly simplified by the introduction of a uniform coinage. Formerly the different rupees and the different rates

of exchange made the system most complicated, and was the source of no small profit to local bankers.

Where there is an agent or *munim*, the clerk or *gumasta* acts under the agent. As a rule there is no agent, and the clerk, who is generally a Brahman, is subordinate to his master alone and is treated by outsiders with much respect. He keeps the accounts, makes and recovers advances to husbandmen, superintends his master's establishment, looks after his lands and servants, and goes abroad to buy and sell goods according to his master's orders. Exclusive of food and other charges and travelling allowance the clerk's yearly pay varies from £5 to £30 (Rs. 50-300). At *Divali* in October-November he is given a turban or some other article of clothing and small presents on weddings.

Bankers as well as traders and well-to-do moneylenders keep three books, a rough and a fair journal or *rojmel* and a ledger or *khatevahi*. Some traders keep only one journal. Where two journals are kept the transactions of the day are entered in the rough journal as they take place. At the end of the day they are corrected, balanced, and entered at leisure in the fair journal. A general summary of each man's dealings is posted in the ledger under its proper head and the pages of the journal which refer to the details are noted. Many village lenders trust to the evidence of bonds and keep no books.

Currency.

In Shivaji's time (1674-1680) the following gold coins were known in the district: *Gadars; Ibhramis; Mohars; Putalis; Satlamis; Huns* of fourteen kinds *Padshahi, Sangari, Achyutrai, Devrai, Ramchandrarai, Gutti, Dharvadi, Shivrai, Kaveripak, Pralakhati, Pala-Naiki, Adavani, Jadmali, and Tadpatri*; and *Phalams* of twelve kinds *Afraji, Trimalari, Trishuli, Chandavari, Bildhari, Ulafrari, Muhammadshai, Veluri, Katerai, Devjavli, Ramnathpuri, and Kungoti*. [Shivaji Bakhar by Krishnaji Anant Sabhasad.] The chief rupees that were current during the Peshwa's rule were the *Malharshai* or *Rastia's* rupee, which was equal to fifteen *annas* of the present Imperial rupee; the *Ankushi* of three kinds, *Kora nirmal chhapi* or fresh from the mint and bearing a clear stamp, *Madhyam chhapi* or with a half-worn stamp, and *Narayan chhapi*; *Belapuri* and *Bhaturi* equal to fourteen *annas*; *Bodke surti* equal to $14\frac{3}{4}$ *annas*; *Jaripatki, Kolabi, Miraji, Phora Chandvadi, and Phulshahari*; *Shikka* of three kinds, *halli, shri, and vai*; and *Tembhurni*. The Peshwa's government used to add two per cent to all its collections to bring them to the *Malharshai* standard. To raise the

coins to the *Ankushi* standard the last Peshwa Bajirav took an additional percentage which varied according to the pleasure of the mamlatdar. In the beginning of British rule the percentage was fixed according to the intrinsic value of the coins. [Captain H. D. Robertson, Collector, in East India Papers, IV. 181,580. For every 100 *Kora nirmal chhapi Ankushis* were demanded 100½ *Madhyam chhapi Ankushis*, 101¼ *Nardyan chhapi Ankushis* and *Phulshaharis*, 103¼ *Bhaturis*, 105¼ *Vai shikkas*, *Belapuris*, *Kolabis*, and *Tembhurnis*, and, 108 *Miraju*, Ditto.] Of the coins in circulation in 1821 about forty-nine per cent were *Narayan chhapi*, twenty-nine per cent *Kora nirmal*, and 7½ per cent *Madhyam chhapi ankushis*, five per cent *Belapuris* and *Bhaturis*, and 1½ per cent *Halli shikkas*. The proportion of the other rupees varied from one-ninth to two-ninths per cent.

The *shikka* rupees were the most popular with bankers, who generally preferred them to other coins. The other rupees continued legal tender till about 1827, when they were superseded by the Company's coin, but the *shikka* rupee remained current till about 1857. Till about 1834-35 when it was finally closed, the *shikka* rupees were made in the Poona mint by the old Tanksale or Mint-master family of Deshasth Brahmans under the supervision of British officers, who allowed ten per cent copper alloy for remuneration, Experts were appointed to examine the coins as they issued from the mint, and were paid ¾d. (¼ a.) as commission on every hundred rupees examined. [Shortly before August 1822 the Poona mint was closed for some time owing to the discovery of frauds. As the want of currency caused inconvenience the mint was reopened. Mr. Chaplin's Report, 20th August 1822 (1877 Edition), 63. The mint seems to have been finally closed about the year 1834-35.] These rupees were generally exchanged at a discount of not more than ¾d. (½ a.).

At present, besides notes which are used only in the town and cantonment of Poona, the currency is partly silver partly copper. The silver coins are the Imperial rupee, half-rupee *adheli*, quarter-rupee *pavli*, and one-eighth rupee *chavli*. The ordinary copper coins are a half-*anna* piece *dhabu*, a quarter-*anna* piece *paisa*, and a onetwelfth-*anna* piece *pai*. Old copper coins called *chhatrapati*, also called *shivrais* or the coins of Raja Shivaji, worth about a quarter of an *anna*, are also current. The *chhatrapati* contains 136 grains troy (¾ *tola*) of pure copper, or 45 grains troy (¼ *tola*) more than the current quarter-*anna*, piece. Still it sells for less as one or two pieces have to be added in every rupee. The coinage of the *chhatrapati* or *shivrai* was stopped immediately after the beginning of British rule. But about thirty years ago large quantities of a counterfeit coin with an alloy of zinc were

secretly coined and circulated in the markets near Junnar and Ahmadnagar. Though gradually disappearing these false *shivrais* are still in use, and are so close a copy of the real *shivrai* that only an expert can tell them from each other. *Kavdis* or cowrie-shells from the Malabar coast are in use in making small purchases of groceries, vegetables, betel leaves, and oil. Four *kavdis*, equal to one-twenty-fifth of a *shivrai* that is about one-seventieth of a penny, is the smallest unit.

Insurance.

Insurance or *vima* was known before the time of the British. Valuable articles, jewels, bullion, coin, precious stones, cloth, cotton, silks, and shawls, and sometimes cattle grain and metal vessels, while being carried to and from Poona, were insured at Poona against loss by robbery, plunder by troops, fire or water, the carrier's negligence, his being carried off by a tiger, drowned in fording a river, or dying from epidemic disease. The work of insurance formed part of the business of one or more bankers acting as partners. As insurance agents they undertook to send goods from one place to another on receipt of transit cost and insurance fees, varying from one to ten per cent on the value of the goods, according to the distance, the danger of robbers, and the time allowed for the journey. [Steele's Hindu Laws and Customs in the Deccan, 314-321. The chief details are:

Poona Insurance Percentage, 1818.

PLACE	Gold and Jewels.	Cash, Silver, Cloth, and other Articles.	FLACK	Gold and Jewels.	Cash, Silver, Cloth, and other Articles.
Haidarabad	1 to 2½	3 to 5	Narayanpeth	3 to 4	3 to 5
Benares and Oudh	5 to 7	No insurance.	Ahmadnagar and Satara	½ to 1	½ to 1½
Jaypur and Ajmir	3 to 4½	4 to 5	Dharwar and Hubli	1 to 2	1 to 3
Surat	1½ to 2	No	Bellari	1½ to 3	1? to 3

		insurance.	Madras and Maisur	2 to 3	2 to 5
Ahmadabad	3 to 5	4 to 6	Surapur	2 to 3	3 to 5
Baroda	2 to 4	3 to 5	Machhli-Pattan	2 to 3	3 to 5
Burhanpur	1¼ to 2¼	2½ to 3½	Tanjor	2 to 3½	2 to 4
Indur and Ujain	2 to 3	3 to 4	Aurangabad, Yeola and Malegaon	1½ to 1¾	1 ¾to 2½
Nagpur	3 to 5	4 to 6			
Umaravati	13 to 2i	2½to 3½	Bombay	½to¾	1 to 1½
Miraj, Sholapur, and Nasik	1 to 2	2 to 3	--	--	--

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Insurance was not undertaken for a longer distance than 200 miles (100 *kos*) unless on property of a greater value than £100 (Rs. 1000). Within that distance the value of goods whose safe carriage was insured varied from £10 to £10,000 (Rs. 100-1,00,000). The agents employed armed escorts and camels to convey the articles, and every year had to pay blackmail to the heads of the robber gangs who infested the country. The insurance agents escorts were Arabs, Rohillas, Pathans, or Rajputs. The camel-men who were Muhmmadans were called *sarvans*. Their wages were from fifteen to twenty per cent above those of ordinary messengers, and, in addition to their wages, they were paid rewards for each successful trip. They were noted for bravery and for their staunch regard for their employer's interests. They carried matchlocks, swords, daggers, and shields. They made very rapid journeys on trained camels, and if attacked by robbers made good use of their arms. Exclusive of the escort's wages the principal sums defrayed by the insurer were on account of loss and damage to the property injured. Interest from ¼ to ½ per cent was also paid to the owner if the goods insured did not reach their destination within the appointed time.

Under British rule order and peace have made insurance against the risks of the road unnecessary. Insurance against fire has not been introduced. In Poona a brauch of the Bombay Oriental Government Security Life Assurance Company Limited, has been open since 1874.

A few policies have been effected on the lives of Europeans, Eurasians, Hindus, and Parsis, but the business done has been small.

MONEYLENDERS.

Much of the moneylending is in the hands of Marwar and Gujarat Vanis. A considerable number of local Brahmans and a few Chambhars, Dhangars, Gosavis, Kunbis, Malis, Mangs, Marathas, Mhars, Musalmans, Shimpis, Sonars, Telis, Lingayat and Vaish Vanis, and others having capital also engage in moneylending. The business done by local lenders, most of whom have other sources of income and are not hereditary moneylenders, is less than that done by outsiders from Marwar and Gujarat. Except of a few town firms moneylending is not the lender's sole pursuit. About sixty per cent are traders including grocers and cloth sellers, thirty per cent are husbandmen, and ten per cent are pleaders and others. [Mr. J G. Moore, C.S.] Besides lending money Marwaris deal in grain, groceries, cloth, and oil, some having shops in villages and others in country towns and market places. Except in some Junnar villages, where they have dealings with husbandmen, Gujarat Vanis are chiefly cloth-dealers who are settled in the larger towns and who lend money to weavers and other craftsmen and seldom to husbandmen. Lingayat moneylenders are chiefly ironmongers and grocers. The Brahman moneylender is generally a land proprietor, a corn-dealer, and in the city of Poona a pensioned Government servant, pleader, or contractor, and a cultivator in Khed and Junnar. He is generally found in towns and seldom lends except to the better class of landholders. The Maratha or Kunbi moneylender is a husbandman. He is found in villages and towns. As a rule he does not lend except to people who belong to his village or with whom he is connected. The others are chiefly found in Poona and in large towns. Of all lenders the Marwari has the worst name. He is a byword for greed and for the shameless and pitiless treatment of his debtor. Some say Brahmans are as hard as Marwaris, others say they are less hard. Almost all agree that compared with Marwar and Brahman creditors, Marathas, Kunbis, and Gujarat Vanis are mild and kindly. A Marwari will press a debtor when pressure means ruin. The saying runs that he will attach and sell his debtor's cooking and drinking vessels even when the family are in the midst of a meal. Brahmans, whose position in society tends to make them popular, are shrewd and cautious in their dealings, and as a class avoid extreme measures for the recovery of their debts. A Gujarat Vani, a Maratha, or a Kunbi creditor will seldom ruin his debtor. It is not easy to make moneylending pay. Want of experience often leads to loss of capital. Except when their immediate interests

clash moneylenders as a class are friendly to each other, avoid competition, and deal honestly among themselves.

Interest.

The accounts of the rates of interest at the beginning of British rule vary. In 1821, according to the Collector Captain Robertson, the usual rate of interest was twelve per cent except in the Mavals where it was from twenty to twenty-four per cent. A $\frac{1}{4}$ *anna* per rupee a month or about eighteen per cent was an usual rate. When the interest was paid in grain the usual monthly rate was a *sher* the rupee or seventy-five per cent. If grain was borrowed for seed, the debt was cancelled by repaying double the quantity borrowed any time within a year; if the grain was borrowed for food one quarter to three-quarters more were paid in return. [East India Papers, IV. 580.] About the same time Dr. Coats (29th February 1820) described the village shopkeeper as lending a few rupees to the villagers without security and charging $\frac{1}{2}$ *anna* interest a month or thirty-seven per cent. A good deal of their traffic with the villagers was by bartering gram and other field produce for groceries. The usual yearly rate of interest was twenty-four per cent. Loans of grain and straw were repaid at fifty per cent, and often at seventy-five per cent. [Bom. Lit. Soc. Trans, III, 236.]

At present (1883) the rate of interest varies with the credit and the need of the borrower, the habits of the class to which he belongs, the risk of the industry in which he is engaged, and the dearness of money. The interest charged is always higher in the country than in the city and presses more on poor than on well-to-do landholders. In small transactions where an article is given in pawn the yearly rate of interest varies from nineteen to thirty-seven per cent. In petty field advances on personal security the usual yearly rate is $37\frac{1}{2}$ per cent. ($\frac{1}{2}$ *a.* the rupee a month). When there is a lien on the crops the payment is generally in grain and the interest varies from twenty-five to fifty per cent. In large transactions with a mortgage on movable property, nine to twelve per cent are charged, and in mortgages of immovable property the rate varies from six to twelve per cent. Where loans are secured by mortgages on land, the average rate in the Haveli sub-division, where the conditions of landed property are specially favourable, varies from thirteen to nineteen per cent. [Deccan Riots Commission Report. 66-67.] In less favoured sub-divisions the rate not uncommonly rises to twenty-four per cent. Money invested in buying land is expected to yield a clear profit of nine to twelve per cent. Interest is now calculated according to the English calendar year in all transactions which do not take the shape of book-accounts. Book-

accounts and merchants' accounts are generally regulated by the *samvat* year which begins at *Divali* in October-November; Brahmans and other non-professional lenders generally keep their accounts by the *shak* year which begins on the first of *Chaitra* in March-April. If payment is made within three years the extra or intercalary month is charged; if the account runs for more than three years the extra month is excluded. The Imperial rupee is the standard in all transactions. Shopkeepers not uncommonly have dealings in *shikka* rupees. In such cases, if the settlement is private, it is made according to the market value of the coin. In disputed cases, when the parties come to court, the *shikka* rupee is turned into the Imperial rupee at a reduction of nearly two per cent. [Gov. Res 25th January 1883, allows a deduction of one rupee and fifteen *annas* for every 100 rupees.] At seed time moneylenders usually advance grain for seed and for the maintenance of the landholder. Advances of seed and of food grain are repaid six months after in kind or in their money value at the rate of 125 per cent or *savai*, of 150 per cent or *didhi*, or of 200 per cent or *dam dupat* of the grain advanced. Contractors, who of late years are a growing class, pay twelve to twenty-four per cent interest and at the time of borrowing allow a discount or *manuti* of three to five per cent. Their dealings are all in cash. They have fair credit and are well-to-do. They borrow money to help them to carry out their contracts and repay the loan as soon as the contract is finished. Moneylenders have good credit and borrow at six to twelve per cent a year. Traders and merchants whose credit varies with their personal position borrow at nine to eighteen per cent. *Khists* or small loans payable by daily or weekly instalments of a few *annas* are occasionally made in some parts of the district.

BORROWERS.

The chief borrowers of the district are land-owning Kunbis. Contractors of various kinds, who are a growing class, also borrow. Enterprising moneylenders borrow at low interest and lend at rates high enough to cover losses and leave a considerable margin of profit. Traders and merchants rarely borrow except when they make large purchases of the articles in which they deal. The few craftsmen who are free from debt act as moneylenders. Though most craftsmen are in debt they are not so deeply involved as landholders, partly because they have no security to offer, partly because they have no money rents to pay. In ordinary years, as a class, craftsmen are better off than husbandmen. Still, of late years, competition has closed many of the old callings, and craftsmen, who have not suffered from competition, are generally afflicted by a craving for some form of vicious indulgence. Except for

their intemperate habits craftsmen are generally intelligent, able so care for their interests, and guard themselves from being overreached by false claims. Craftsmen borrow at twelve to twenty-four per cent. Besides the interest, they have to accept a five per cent deduction from the amount of the nominal loan. They are honest debtors and do their best to pay their debts repaying a small instalments. They dislike borrowing and do not borrow except under considerable pressure. They reckon indebtedness a burden and try to shake it off as soon as they can. Of the lower orders domestic servants and labourers are the only classes who are comparatively free from debt. House servants if forced to borrow repay the loan by monthly instalments. They are generally regular in their payments and careful to pay what they owe. Except during the few years before and after the close of the American war, when the Peninsula railway and other local public works were in progress and when the wages of unskilled workmen in Bombay were exceptionally high, labourers were never better off than they now are. Fifty years ago a labourer could hardly earn wages enough to keep himself and his family and could save nothing. A labourer then was badly fed and clad; the cheapness of the articles of daily use alone kept him from starving. The first marked improvement in the labourer's condition was caused by the demand for labour to complete the great public works which were in hand both locally and in Bombay between 1862 and 1871. The Deccan Riots Commission estimated that £250,000 to £300,000 (Rs. 25-30 *lakhs*) of the whole amount spent in making the Peninsula railway within Poona limits remained in the district in payment of local labour. Just beyond the west limits of the district were the great Sahyadri works where on a distance of fourteen miles 40,000 labourers were at one time employed by one contractor. At the same time the foreshore reclamation and other works in hand in Bombay caused so great a demand for labour that in 1863 the monthly wages of unskilled workmen rose from 15s. 6d. (Rs. 7 $\frac{3}{4}$) to £1 7s. (Rs. 13 $\frac{1}{2}$). Great public works in the Poona district continued to give the labourers highly paid employment till the year 1871. At present (1883) a labourer can command not only the necessities of life for himself and his family, but ordinary comforts and even a few luxuries. He spends his gains on clothes, food, and liquor more than on ornaments. Labourers work in the fields from August to March; at other times they are employed on house-building and other public or private works. On his personal security a moneylender generally advances a labourer up to £10 (Rs. 100). Sometimes the security of a fellow-labourer is taken.

Husbandmen.

Since before the beginning of British rule the greatest borrowers in the district have been the landholders. The ordinary Kunbi is a simple well-disposed peasant content with the scantiest clothing and the hardest fare. Though unschooled and with a narrow range of intelligence he is not without manly qualities and meets with a stubborn endurance the unkindly caprices of his climate and the hereditary burden of his debts, troubles which would drive a more imaginative race to despair or stimulate one more intelligent to new resources. The apparent recklessness with which he will incur obligations that carry the seeds of ruin has gained for the Poona landholder a character for extravagance and improvidence. The apparent recklessness is often necessity. His extravagance is limited to an occasional marriage festival, and his improvidence is no greater than that of all races low in the scale of intelligence who live in the present. [Deccan Riots Commission Report, 22] The want of forethought, which prevents the landholder overcoming the temptation to which the uncertainty of the seasons and the varying value of his produce give rise, is caused by a want of power to realize future troubles rather than by a spirit of extravagance or waste. In 1875, in the opinion of the members of the Deccan Riots Commission, the expenditure on marriage and other festivals was less the cause of the husbandman's indebtedness than was commonly supposed. Compared with his means the expenditure was extravagant, but the occasions seldom occurred. In a course of years the total sum spent was probably not larger than a landholder was justified in spending on special and family pleasures. The expenditure on family pleasures formed an important item on the debit side of many accounts but it was rarely the nucleus of a debt. Even at twenty-four per cent interest the £5 to £7 10s. (Rs. 50-75) spent by an average landholder on a marriage, with fairness on the lender's part and without the addition of other debts, could be rapidly paid. In the opinion of the Commission the bulk of the landholder's debt was due less to the large sums spent on ceremonies than to constant petty borrowings for food and other necessities, to buy seed, to buy bullocks, and to pay the Government assessment. The Commissioners held that in a district with so uncertain a climate as Poona and with people whose forethought was so dull, the payment of a regular money rental, even when the rental was far below the standard of a fair season, must lead to borrowing.

When the country came under British rule, the bulk of the husbandmen were in debt. In 1819 in the township of Loni on the Ahmadnagar road, about ten miles east of Poona, Dr. Coats found that of eighty-four families of husbandmen all except fifteen or sixteen were indebted to moneyed men generally Brahmans or shopkeepers.

The total private debt was £1453 (Rs. 14,530) and there was a further village debt of £307 (Rs. 3070). The sums owed generally varied from £4 to £20 (Rs. 40-200), but some men owed as much as £200 (Rs. 2000). The interest was usually twenty-four per cent, but when small sums were borrowed interest was as high as forty per cent. The cause of debt was generally marriage expenses or the purchase of cattle and food. Each debtor had a running account with his creditor and paid sums of money from time to time. According to the accepted rule the interest of a debt could never be more than the principal. In settling disputes the juries followed the rule *dam dusar kan tisar*, that is double for money treble for grain. Few debtors knew how their accounts stood. Most of them believed that they had paid all just demands over and over again. About a fourth of the people were indebted to their neighbours for grain and straw and borrowed to support themselves and their cattle till next harvest. They repaid these advances in kind at fifty to seventy-five per cent interest. In ordinary times the whole of a husbandman's produce was mortgaged before it was reaped. In bad seasons the evil was much increased. If any of their cattle died they had no means of replacing them. If they failed to raise an advance they left their fields and tried to save some money as Brahmans' servants or perhaps as soldiers. [Trans. Bom. Lit. Soc. III. 226.] [From the Deccan Riots Commission Report (1876).] In 1822 according to Mr. Chaplin, owing to the oppression of revenue contractors, the landholders in many villages, though frugal and provident, were much in debt to bankers and merchants. Many of these debts were of long standing. They were often made of compound interest and fresh occasional aids so mixed and massed that the accounts were exceedingly complicated. A husbandman who fell in debt could seldom free himself. The husbandman's debts were of two kinds, village debts and private debts. The village debt usually arose from advances or loans made by bankers to the Maratha Government on the security of the revenues of certain villages. The private debts were the result of the revenue farming system under which the state dues were collected through bankers or *savkars* who usually received in kind from the villagers what the bankers had paid to the Government in cash and drafts. The mass of the husbandmen had not interest or title enough in their land to be security for a large debt. *Miras* or hereditary holdings were sometimes mortgaged, but their selling value was estimated at not more than two or three years' purchase, and land yielding £20 (Rs. 200) of gross produce could seldom be mortgaged for more than £10 (Rs. 100). The ordinary dealings between the moneylender and the landholder were based on the teaching of experience rather than on any power of compulsion in the hands of the creditor. The recognized mode of recovering debt was

for the lender to send a dun or *mohasal* whose maintenance had to be paid daily by the debtor. Another mode was to place a servant in restraint or *dharna* at the debtor's door, or to confine the debtor to his house or otherwise subject him to restraint. Against the humbler debtors severer measures were used. The landholder's constantly recurring necessity could not be relieved unless he maintained his credit by good faith. On the other hand the Government in no way helped the lender to exact more than a fair profit which considering his risks would also be a large profit. Honesty was the borrower's best policy and caution was a necessity to the lender. There was a considerable burden of debt and many landholders were living in dependence on the lender, delivering him their produce and drawing upon him for necessities. The landholder's property did not offer security for large amounts. The debtor's cattle and the yearly produce of his land were the lender's only security. As immoveable property was not liable to sale for debt, and as the hereditary or *miras* title was of no value to a non-agricultural landlord, the mortgage even of hereditary or *miras* land gave the lender a hold on the produce rather than on the land. Rates of interest were very high and much of the debt consisted of accumulations of interest. The causes of indebtedness were chiefly the revenue system and sometimes expenditure on marriages or similar occasions. The amount of individual debt was usually moderate. Most moneylenders were men of substance who had a staff of duns and clerks. In recovering debts the lender had little or no help from the state. At the same time he had great license in private methods of compulsion. Under British management the lender's power of private compulsion was curtailed and courts presided over by the Collectors were opened to suitors. At first the lenders did not go to the courts. This and other causes caused a contraction in the moneylender's dealings. Still the landholder's necessities compelled him to keep on terms with his creditor.

There are no records bearing on the relations between the husbandmen and their creditors in the years immediately following Mr. Chaplin's report. Later information shows that the burden of debt grew heavier rather than lighter before the introduction of the Civil Court Procedure in 1827. The first regular Civil Procedure was introduced into the Bombay Presidency by Regulations II. III. IV. and V. of 1827. Regulation IV. provided the procedure and Regulation V. the limitations for civil suits. In Regulation IV. the cattle and tools necessary for the support of the agricultural debtor were declared exempt from seizure on account of debt. Regulation V. limited the yearly rate of interest recoverable in a civil court to twelve per cent. When the new laws came into operation, except in hereditary or *miras*

land, the husbandman had no title to his holding, and on account of the fall in the value of produce the revenue demand left little margin to the landholder. Under these circumstances the lender had little security for debt.

As the courts gave the lenders the means of speedily realizing their claims they were soon resorted to. In 1832, when the extreme cheapness of grain was pressing with terrible weight on the agricultural classes, the French traveller Jacquemont, a somewhat unfriendly critic, described the cultivators all over India as owing instead of owning. They had almost always to borrow seed from the banker and money to hire plough cattle. Every husbandman had a running account with a lender to whom during all his life he paid the interest of his debt, which swelled in bad years and when family ceremonies came round. In no part of India did indebtedness cause more misery than in the Deccan. Formerly the law or custom prevented a lender from more than tripling the original loan by compound interest neither personal arrest nor seizure of immovable property was allowed. The English law removing all such restraints caused much horror. To carry out the law judges had to strip old families of their ancestral homes. [Jacquemont's Voyages, III. 559.]

The first detailed record of the relations between husbandmen and their creditors is the result of an inquiry made in 1843, by Mr. Inverarity, the Revenue Commissioner of the Northern Division. Mr. Stewart, the Collector of Poona, after premising that it was well known that all enactments to fix a lower than the market rate of interest had the effect of enhancing it, stated that money was frequently borrowed on mere personal security at thirty to sixty per cent. Considering that the borrowers seldom owned any property it seemed to him a matter of surprise that they had credit at all rather than that the rate of interest was so high. The views of Messrs. Frere and Rose his assistants were somewhat at variance with the Collector's views. Mr. Frere stated that there were few villages under his charge in which there was one landholder unburdened with debt and scarcely a single village in which three persons could be found not involved for sums of over £10 (Rs. 100). These debts were contracted on marriage and other social occasions. The interest varied from twenty-five to sixty per cent according to the circumstances of the borrower and the description of security given. Mr. Frere recommended some measure restricting interest. Mr. Rose observed that the usurious character of the village moneylender was notorious. He thought the poverty of the Deccan landholder was in great measure due to the lender's greed. He feared it would be difficult to cure the evil as the people looked on the

moneylender as a necessity. Their thoughtlessness and ignorance would frustrate any attempt to check or put a stop to the lender's exorbitant gains. In cases' where landholders were concerned, the interest was generally enormous and agreements were fraudulently procured. He also recommended that something should be done to limit the rate of interest. In summing this evidence the Revenue Commissioner seems to have shared the Collector's views against trying to lower interest by legal enactment. He noticed that the moneylender was frequently part of the village community. The families had lived for generations in the same village helping the people from father to son and enabling them to meet urgent caste expenses.

In this correspondence the attention of the reporting officers was usually fixed on the question of usury. It appears that as yet the operation of the law had not aggravated the burden of debt to any degree of severity. This was natural. The husbandmen had generally no title in his land except the title conveyed by the hereditary or *miras* tenure and his stock and field tools were safe from seizure. Another notable point in this correspondence is that the moneylenders are spoken of as the village Bania, the village banker, and under similar terms which show that the old banker was the only lender with whom the landholders had dealings. It is also noteworthy that expenditure on marriages, caste rites, and similar occasions is generally assigned as the cause of indebtedness. One reason why social charges are noticed as the chief cause of debt may be found in the rapid spread of tillage which in different parts of the district followed the lowering of the rates of assessment in 1536 and the following years. The lowering of assessment gave the landholder a strong inducement to add to his holding and the lender was encouraged to make advances by the enhanced security and the ready machinery which was available for recovering debts. It was hoped that the permanent title and the light assessment guaranteed by the survey settlement would so increase the landholder's profits and stimulate his industry that by degrees he would free himself from debt. The increased production and the stimulus to agricultural enterprise did indeed follow, but debt instead of diminishing increased. The records belonging to the period between 1850 and 1858 bring to notice two marked features in the relations between the lender and the husbandman which followed the changes in the revenue and judicial systems. These two features are the growth of small moneylenders and the operation of the laws to the disadvantage of the landholders. In 1852, Captain, the late Sir G., Wingate, then Survey Commissioner, wrote that the facilities for the recovery of debt offered by the civil courts had called into existence an

inferior class of moneylenders who dealt at exorbitant rates of interest with the lower agricultural poor. As the value of the landholder's title under the survey settlements came to be recognized, his eagerness to extend his holding grew. A fresh start was given to the moneylender in his competition with the landholder for the fruits of the soil. The bulk of the people were very poor and the capital required for wider tillage could be obtained only on the credit of the land and its produce. Even under the reduced rates of assessment existing debt left the landholder little margin of profit. This margin of profit would not go far towards covering his increased needs to provide stock and seed and to meet the assessment on the additions to his holding. At the same time for the first year or two his return in produce would be nominal. Even the most cautious could not wait till their profits enabled them to take up fresh land because they feared that the more wealthy or the more reckless would be before them. In 1855 it had become well known that the Regulation restricting the rate of interest to twelve per cent was evaded by the moneylenders by deducting discount, or more properly interest taken in advance from the amount given to the debtor. The usury law had the effect of placing the debtor in a worse position by compelling him to co-operate in a fiction to evade the law. The bond acknowledged the receipt of an amount which had not been received. In 1855 an Act was passed repealing the restriction on interest. Another result of the enhanced value of agricultural investments caused by the survey settlement was the spread of the practice of raising money on mortgage of land and of private sales of land to moneylenders. Private sales of land were doubtless made in liquidation of debt and not for the purpose of raising money as no landholder would part with his land to raise money. It must therefore be presumed that in such cases the moneylender compelled the transfer by threats of imprisonment or by other terrors. Although moneylenders were adding to their land by private purchases the sale of occupancies under decree was rare. This was probably due to several causes. They people had not acquired full confidence in the title given by the survey settlement; they probably had hardly confidence in the stability of the British rule. The only land sold was hereditary or *miras* which as it was held by a recognized title was reputed to be safe. It was seldom a creditor's interest to sell his debtor out of his holding. The landholder's stock and field tools were protected from sale and the creditor was likely to make more by leaving him in possession of his land than by lowering him to a tenant. The sale of immovable property for debt was opposed to custom and public opinion, and unless the land was directly made security the courts would be reluctant to have it sold if the claim could be satisfied by other means more consonant with native usage. The judicial returns

show how much more favourable the mode of disposing of business in the courts before 1859 was to defendants than the more strict procedure which was introduced in 1859. Under the earlier system about one quarter of the cases decided were adjusted without judicial action; in 1859 the proportion settled without judicial action fell to about one-seventh. [The details were; in 1850 of 8893 cases 2355 were settled without judicial action; in 1859 of 10,060 cases 1869 were settled without judicial Action.] At this time (1850-1859) the returns show that the imprisonment of the debtor was a favourite method of procuring the settlement of a debt. The sale of land was rare and the sale of the debtor's house was an innovation. Imprisonment would therefore be more often used. During the three years ending 1853 there was an average of 530 civil prisoners in the Poona Jail, compared with an average of 204 in the three years ending 1863.

In 1858, when Lord Elphinstone was Governor of Bombay, he recorded his conviction that the labouring classes suffered enormous injustice from the want of protection against the extortionate practices of moneylenders. He believed that the civil courts had become hateful to the mass of the people because they were made the instruments of the almost incredible rapacity of usurious capitalists. In Lord Elphinstone's opinion nothing could be more calculated to give rise to widespread discontent and dissatisfaction with British rule than the practical working of the existing law.

Shortly after this the rise in produce prices improved the landholder's condition. Notwithstanding the pressure of debt and of injurious laws about 1860 the landholders were better off than they had been for years. The conditions of agriculture had been favourable. For nearly twenty years landholders had enjoyed a fixed and moderate assessment and large tracts of arable waste had been brought under tillage. Communications and means of transport were improved, the railway whose construction had enriched the district by about £200,000 (Rs. 20 *lakhs*) was within easy reach, and in spite of a series of good seasons produce prices had risen. Although the lender might take him to court, the landholder had a chance of being able to borrow from a rival lender and the court would give time. If a decree was passed against the borrower, his stock and field-tools were safe and his land was not in danger. He might be imprisoned until he signed a new bond; he was not likely to be made a pauper.

In 1859 two enactments aggravated existing evils. These were the Civil Procedure Code and the Statute of Limitations. Whatever facilities

the law afforded the creditor in 1852 were greatly enhanced by the introduction of the 1859 procedure, and by the punctual conduct of judicial duties which was now exacted from the subordinate courts. At the same time the landholder's credit was enhanced by adding his land and his stock and field tools to the security which was liable for his debts. In 1865 the introduction of compulsory registration of deeds dealing with immovable property protected the creditor from attempts to repudiate or dispute a registered bond. In the meantime the landholder's estate had risen in value and new cultivation offered securities for new loans. His personal solvency was assured by the large demand for labour on the railway and other public works, and in 1865 his title in his land was recognized and secured by an Act which confirmed the rights vested in him by the survey settlement. Between 1862 and 1865 the American war, while on the one hand it poured money into the country to seek investment, on the other hand raised to an extravagant pitch the value of agricultural securities. To these causes tending to attract capital to the business of agricultural moneylending it may be added that in the dearth of other industries, with a population whose wants embraced little but the merest necessities, capital, which under other conditions would find employment in trade or manufactures, naturally turned to agricultural investment. Almost the only course open to the clerk or servant who had saved a little money in a village moneylender's employment, was to set up as a moneylender.

The most unscrupulous class of petty moneylenders increased considerably during the ten years ending 1875. It became the landholder's common practice to borrow from one lender to pay another or to borrow from two or three at a time. One result of this competition of low-class lenders was that even respectable lenders were obliged to resort to the methods of swelling the debt and coercing the debtor which the petty lenders had introduced. [Sir G. Wingate thus described the change in the relations between the lender and the landholder: The prosperity of the landholder is no longer necessary to the prosperity of the lender. The village lender needs no longer to trust to the landholder's good faith or honesty. Mutual confidence and goodwill have given way to mutual distrust and dislike. The ever-ready expedient of a suit give the lender complete command over the person and property of the debtor. It becomes the lender's interest to reduce the borrower to hopeless indebtedness that he may appropriate the whole fruits of his industry beyond what is indispensable to his existence. This the lender is able without difficulty to do. So long as a landholder is not deeply involved the lender readily affords him the means of indulging in any extravagance. The simple

and thoughtless landholder is easily lured into the snare. He becomes aware of his folly only when the toils are fairly round him and there is no escape. From that day he is his creditor's bondsman. The creditor takes care that the debtor shall seldom do more than reduce the interest of his debt. Do what he will the landholder can never get rid of the principal. He toils that another may rest; he sows that another may reap. Hope leaves him and; despair seizes him. The vices of a slave take the place of a freeman's virtues. He feels himself the victim of injustice and tries to revenge himself by cheating his oppressors. As his position cannot be made worse, he grows reckless. His great endeavour is to spoil his enemies the moneylenders by continual borrowing. When he has borrowed all that one lender will advance, it is a triumph to him, if lies and false promises, can win something more from another. The two creditors may fight, and during the fray the debtor may snatch a portion of the spoil from both. Deccan Riots Commission Report, 45-46] In the process of swelling the account the lender was greatly helped by the Limitation Act of 1859. This Act was passed with the object of helping the borrower by making it impossible for the lender to bring forward old claims which the borrower could not disprove. The lender wrested the provisions of the Act to his own advantage by forcing the debtor, under threat of proceedings, to pass a fresh bond for a sum equal to the amount of the original bond together with interest and often a premium. [On the 17th of May 1875. Mr. W. M. P. Coghlan, the Sessions Judge of Thana, wrote, ' In bonds founded on old bonds which have nearly run the period of limitation, it is impossible to estimate what proportion of the consideration was actual cash payment. The Limitation law, a statute of peace made for the protection of borrowers, became an engine of extortion in the hands of the lenders. When a bond is nearly three years old the creditor by threatening proceedings presses the debtor to pass a new bond for a sum equal to the principal and interest of the old bond and sometimes with an additional premium.' According to the Judge of the Small Cause Court of Ahmadabad, 1st September 1873, the short term which the Limitation Act introduced caused great hardship and gave lenders with opportunities for cheating their debtors. The debtors are harassed every two years to pay the money or to pass a new bond. Creditors always leave a margin of one year as a measure of precaution. If the law makes three years they always make it two, because they may have to go to another place or the debtor may go elsewhere. Two years is not a long enough time to give a husbandman to pay money, perhaps it was borrowed for his son's marriage, or for planting sugarcane, or making a garden, and will take him or seven years to clear.] His inability to pay on account of the uncertainty of the seasons made this practice of passing new bonds at

the end of every two or three years press specially hard on the Poona husbandman.

Though the landholders' gains from the high prices of produce during the four years of the American war (1862-1865) were to a great extent cancelled by the badness of those seasons, still the husbandmen drew large profits from the high wages of unskilled labour, which in Bombay rose from 15s. 6d. (Rs. 7¾) to £1 7s. (Rs. 13½) a month. Besides in Bombay high wages were paid to the workers in the railway especially on the ascent of the for pass which was not completed till 1863. Following on this after a short interval came an increased expenditure on local public works, which in the Poona district alone in 1868-69 rose to about £310,000 (Rs. 31 *lakhs*). During the five years ending 1867, the cantonment of Poona was the scene of extraordinary activity in private housebuilding. The sums spent on ordinary labour in these works could not have been much, if at all, less than those spent by Government in the same area. Besides the advantage of high wages the agricultural population drew a more questionable advantage from their position as landholders. Through, the immense stimulus given to the production of cotton and because of the cheapness of money, field produce and land had risen so high that the landholder's power as a borrower was that of a capitalist rather than of a labourer.

The increase in the value of land is illustrated by the rise in the number of suits connected with land from seventy-five in 1851 to 282 in 1861 and to 632 in 1865. [The details are; 1861, 282 suits; 1862, 591; 1863, 520 154, 580; and 1803, 632.] At the same time the increase in the landholder's credit is shown by the fall in the compulsory processes for the recovery of debt. Thus, though during this period of extremely high prices, the husbandman's land may have, on account of the badness of the seasons, brought him little actual income, it brought him the fatal gift of unlimited credit.

In 1865 with the close of the American war the inflow of capital ceased. _ Prices did not at once fall as 1866-67 was 3 a season of severe drought, 1867-68 of partial failure, and 1870-71 of serious failure, and the very large sums which were spent on local works till 1871 further helped to keep up produce prices. After 1871 the expenditure on public works declined, the harvests were good, and the price of millet fell from forty-four pounds in 1871-72 to sixty-five pounds in 1873-74. From 1867 the settlements of land revenue made thirty years before began to fall in, and the revision resulted in a

considerable increase in the Government demand. [The following table shows the results of the revisions:

Poona Revision Survey Remits, 1869-1872.

SUB-DIVISION.	Former Demand.	Revised Demand.	Increase.	Percentage.
	Rs.	Rs.	Rs.	
Indapur	81,184	1,25,845	44,661	55. 01
Bhimthad	81,475	1,33,131	51 656	63.40
Haveli	80,475	1,33,174	52,699	65.48
Pabal	92.359	1,39,315	46.956	50.84
Supa	59,926	78,788	18,862	31.47

]

All these circumstances contributed to contract the landholder's means and materially reduced the margin available for the lender, while it is possible that the landholders did not contract in the same proportions the more costly mode of living which high wages had justified. Debts increased and the husbandmen began to mortgage their lands more deeply than before. In 1871 the failure of crops called for large remissions. Other causes prevented the rental actually levied from reaching the full amount of the revised rates, and in 1874, in consequence of the fall in produce prices, the revised rates were reduced. Still the effect of the new settlement was a large retrenchment from the landholder's profits.

The effect of the sudden fall in produce prices between 1871-71 and 1873-74 aggravated by other circumstances, was first to reduce the landholder's power of paying, secondly to make creditors seek by all means in their power to recover their debts or to enhance their security by turning personal debt into land mortgage, and lastly to check further advances to husbandmen. [The lender's distrust in the borrower was shown by the rise in the number registered deeds in Bhimthadi and Indapur from 752 in 1866 to 874 in 1869, 1195 1870, 1217 in 1871, 1874 in 1872, and 1414 in 1873.] During the same period there was a marked increase in the difficulty of collecting the land revenue. Not only in the sub-divisions where the enhanced

assessments pressed directly upon the moneyed classes, who were able to organize and sustain resistance to the demands of Government, but in others, the period from 1868-69 to 1873-74 was marked by an unusual amount of remissions and arrears. The business of lenders was also reduced to the last point. At the same time the area held for tillage considerably contracted.

The pressure on the landholder to pay what he owed and the unwillingness of the lender to make further advances were gradually increasing from 1869 to 1875. An order of Government in the Revenue Department, [Resolution 726, 5th February 1875] framed with the object of preventing the sale of land, directed that process to recover land revenue should issue first against the movable property of the occupant, and that the land should not be sold until after the sale of the movable property. This order the moneylenders turned to their own advantage at the expense of the landholders. In February and March 1875 the lenders refused to pay the second instalment of revenue on land whose produce they had received from their debtors. Landholders who found their movable property attached, after they had handed their creditors the produce of the land on the understanding that they would pay the rents, naturally felt that they were the victims of deliberate fraud. The feeling of ill will was strong and widespread.

In 1874 a band of Koli outlaws, on the western hills of Poona and Ahmadnagar, directed their robberies almost entirely against the lending class. So great was the terror that for many months a large tract of country enjoyed complete freedom from the exactions of Marwari creditors and their agents. [Between 1870 and 1874 moneylenders suffered in one case of murder, seven of robbery, eight of mischief, twenty-four of theft, twenty-nine of hurt, and eight of criminal force, or a total of seventy-seven offences in five years. Deccan Riots Commission Report, 9.] This fact and the story that an Englishman, who had been ruined by a Marwari, had petitioned the Empress and that she had sent orders that the Marwaris were to give up their bonds brought matters to a crisis. Even the more educated villagers believed that on a report from India orders had come from England that the Marwaris were to have their bonds taken from them. In some form or other this report was circulated and a belief established that acting under orders from England, the Government officers would connive at the extortion of the Marwaris' bonds. During 1874 the district officers had been called upon to furnish information regarding the people of the district for the compilation of the Bombay Gazetteer. Among other subjects the business of the moneylender, the

leading characteristics of his professional dealings, and his relations to the landholding classes had been inquired into. This gave room for supposing that the Government, hearing of the ill-treatment of the landholders by the lenders, had caused inquiry to be made and had now given an order which would redress their wrongs. This resulted in the Deccan Riots of 1875. [The feeling of hostility between the landholders and their creditors which found expression in the riots had been increasing for some time, and had it not been for a transient period of prosperity, the crisis would have happened long before. Bom. Gov. Sel. CLVII (New Series), 2.]

Deccan Riots

The first sign of open hostility to the Marwari moneylender among the orderly villagers of the Poona plain, was shown by the people of Karde in Sirur. A *deshmukh*, or district hereditary officer, named Babasaheb, a man of good family and some influence, who had made a fortune in the service of His Highness Sindia, had settled in the village. He spent his fortune and fell into debt. Two of his creditors, Kaluram and Bhagvandas, both of them Marwaris, got from the Talegaon court decrees against Babasaheb. Kaluram took out a warrant of arrest. Babasaheb gave Kaluram personal ornaments and the warrant was not executed. About four months later some ornaments and property belonging to the temple of Vithoba at Babasaheb's house were attached, but, at the instance of the villagers, Kaluram allowed the attached property to remain in deposit with a third party for two months. At the end of the two months, as Babasaheb had not paid the value, Kaluram carried off Vithoba's ornaments. A third execution was issued on Kaluram's decree, and Babasaheb's houses and lands were attached and sold to Kaluram for the trifling sum of £15 (Rs. 150). In December 1874 Kaluram began to pull down Babasaheb's house, and refused to listen to his entreaties not to ruin the house. Enraged at Kaluram's conduct Babasaheb gathered the villagers, and persuaded them that as the Marwaris had begun to ruin them they must cease to borrow from them and refuse to work for them or to buy from them. The villagers agreed and one of them opened a grocer's shop at which all the village purchases were made. The Marwaris were put to the greatest inconvenience for want of servants. Besides refusing to serve them as water carriers, barbers, or house-servants, the villagers annoyed the Marwaris by throwing dead dogs and other filth into their houses. These signs of hate so scared the Marwaris that they retreated to Sirur for police protection and represented to the Magistrate that they were in bodily fear of the villagers. At the same time the villagers submitted a petition to Government praying that as they had given

their grain to the Marwaris, the Marwaris should not be allowed to leave the village until the Government assessment had been paid. The Magistrate reported to the Commissioner the dangerous spirit shown by the people. The example of the people of Karde was followed by other villages. Before any outbreak occurred the Marwar moneylenders had in several places been subjected to similar social outlawry and petty annoyance. [The following is the substance of a *samapatra* or agreement executed by the people of Kalas in Indapur. Fields belonging to Gujarars which may have been leased to villagers shall not be tilled. No man nor woman shall take service with a Gujar. Any one tilling a Gujar's field or working for him will be denied the service of the village barber, washerman, carpenter, ironsmith, shoemaker, and other village servants. Fields belonging to lenders other than Gujarars shall not be taken on lease by any one. Fields already leased shall be given up. If the village Mhars undertake to dun the villagers on behalf of the Gujarars they shall be refused their usual alms and bundles of grain stalks. The villagers shall abide by these conditions. If the headman joins the Gujarars and other lenders, his hereditary right shall cease and his authority be disregarded. If the village priest or accountant joins the moneylenders his dues shall not be paid. The villagers shall engage any priest they choose, and the claims of the hereditary priest will not be recognized. If the headman or the priest is put to any expense on behalf of the villagers the villagers shall subscribe the sum. All landholders shall behave in accordance with these rules; any one acting to the contrary will neither be allowed to come to caste-dinners, nor to marry with the people of his caste. He shall be considered an outcaste. He will not be allowed to join the community without their unanimous consent, and will have to pay the fine which the community may inflict on him and further will have to give a dinner to the community. Dated *Vaishakh Shuddh 2nd Shake* 1787, that is 7th May 1875. Afterwards under the influence and advice of the Superintendent of Police the villagers agreed to return to their old relations with the moneylenders.]

The first outbreak occurred at Supa, a large Bhimthadi village, on the 12th of May 1875. The victims were a large number of Gujarat Vani moneylenders. Their houses and shops were attacked by a mob recruited from the hamlets round Supa who had met nominally to attend the weekly market. One Gujar's house was burnt down, and about a dozen other houses and shops were broken into and gutted. Account papers, bonds, grain, and country cloth were burnt in the street. No personal violence was used. The chief constable of the sub-division with six or seven constables secured about fifty persons and recovered stolen property worth £200 (Rs. 2000). The loss was

represented by the Gujars at £15,000 (Rs. 1½ *lakhs*); it was not really more than £2500 (Rs. 25,000). Within twenty-four hours of the riot at Supa, the leading Marwari lender of Kedgaon about fourteen miles to the north of Supa had his stacks burnt down and his house set on fire. During the following days riots occurred in four other villages of Bhimthadi, and were threatened in seventeen more. [In the village of Morgaon a crowd assembled, Vanis were threatened and bonds demanded, violence was prevented by the timely arrival of the police. At Dhond a Vani was severely treated because he would not give up his bonds, and a large crowd assembled. Five ringleaders were punished. At Ambekhurd two Vauis' houses were forcibly entered, their account books destroyed, and bonds taken away. Six of the ringleaders were punished. In Aligaon about two hundred men from the surrounding villages of Nargaon, Nandgaon, Andhalgaon, Kolgaon, Dolas, and Vadgaon, assembled, headed in some instances by their headmen and village police, and demanded their bonds from the Vanis threatening if they refused to treat them as the Supa Vanis had been treated. The police patel of the village, with the assistance of the Ramoshis Mhars and other well disposed people, dispersed the assembly who threatened the Vanis with another visit. The inhabitants of Vadgaon again collected in numbers and compelled one of the Vanis of their village to give up his bonds, went through his house, broke open the back entrance of the next bouse, illtreated the female Vani owner, compelled her to point out where the bonds were kept, broke open the box, and took the bonds, burning or otherwise destroying papers worth £100 to £1200 (Rs. 1000-12,000). A similar assembly at Mandgaon took possession of bonds of the value of £600 (Rs. 6000) and about half of them were destroyed. At Rahu a Marwari who had been incessantly threatened fled to Phulgaon, and was not allowed to remove his property and family. A large stack of fodder belonging to him was destroyed. At Pimpalgaon, the villagers took away bonds from small moneylenders among whom was a Chambhar who had only one bond for £3 10s. (Rs. 35). The police patel on his way to report the matter to the Police Superintendent was stoned.] The contagion spread to the neighbouring sub-divisions of Indapur and Purandhar. In Indapur a disturbance, which from the numbers present would have been serious, was averted, as were the riots threatened in the seventeen Supa villages, by the promptitude of the police. A detachment of Native Infantry arrived at Supa, the police were relieved and available for other duty, and order was quickly restored.

About the same time riots occurred in Sirur, The first act of violence was committed at Navra, where a Marwari, who had left the village for safety, was mobbed and prevented from moving his property. An uncle

of this Marwari some two years before had been murdered by his debtors. Other Sirur villages followed the example of Navra. [At Dharure the houses of two Marwaris were simultaneously attacked, bonds worth £1200 (Rs. 12,000) were forcibly taken, and the owners were stoned. One old Marwari had his leg broken. He was confined in his house and the house set on fire. He was saved but his and the other Marwaris' houses were burnt. The chief constable was also threatened and was not allowed to carry on the work of investigation. This shows that everywhere the same influences had brought the villagers to the same readiness to resort to force. Subsequent inquiries leave no doubt that the rioters at Supa had the sympathy and countenance of some influential persons of their village, and the presence of these persons may perhaps account for the first occurrence of open violence at Supa. But the condition of the villages through the whole affected area was such that even had Supa not taken the initiative, some other places would doubtless have done so. The combustible elements were everywhere ready; design, mistake, or accident would have surely supplied the spark to ignite them. The ringleaders generally belonged to the cultivating classes, their only object being, to escape from the hands of the moneylenders. When a riot began all the bad characters in the village took part in hopes of plunder.] In fifteen Sirur and three Haveli villages riots either broke out or were threatened. [While these disturbances were going on in Poona similar outbreaks occurred in the neighbouring district of Ahmadnagar. During the fortnight following the Supa riot on the 0 2th of May riots took place in eleven villages of Shrigonda, six of Parner, four of Nagar, and one of Karjat and besides actual rioting there were numerous gatherings which were prevented from coming to violence by the timely arrival of the police or military. A detachment of Native Infantry was moved to Shrigonda and parties of the Poona Horse were active in patrolling the villages in the west with in reach of their head-quarters at Sirur.] The regiment of Poona Horse whose head-quarters are at Sirur supplied parties to help the Magistrate and police in restoring and maintaining order. More or less serious disturbances took place in five villages of Bhimthadi and six villages of Sirur. They were threatened but averted by the arrival of the police in seventeen villages of Bhimthadi, in ten of Sirur, in one of Indapur, and in three of Haveli. Of 559 persons arrested, 301 were convicted and 258 discharged. Punitive police posts were established in the disturbed villages at the people's expense. The riot at Supa was singular in the wholesale plunder of property and the Damare riot in the murderous assault on the moneylenders. In a few other cases personal violence was used, and in several places stacks of produce belonging to moneylenders were burnt. As a rule the disturbances were marked by

the absence of serious crime. In every case the object of the rioters was to obtain and destroy the bonds and decrees in the possession of their creditors. When bonds were peaceably given the mob did no further mischief. When the moneylender refused or shut his house violence was used to frighten him into surrender or to get possession of the papers. In most places the police interfered during the first stage of assembling and prevented violence. From many villages the Marwari moneylenders fled on the first news of the outbreak. In other villages they opened negotiations with their debtors for a general reduction of their claims, and in some cases propitiated their debtors by easy settlements. In almost every case inquired into, the riot began on hearing that in some neighbouring village bonds had been extorted and that Government approved of the proceeding. Almost the only victims were Marwaris and Gujars. In most villages where Brahman and other castes shared the lending business with Marwaris the Marwaris were alone molested. In some villages where there were no Marwaris, Brahmans were attacked. The last of the connected series of outbreaks occurred at Mundhali in Bhimthadi on the 15th of June. Afterwards two isolated cases in Poona showed that the long catalogue of convictions and punishments and the imposition of punitive police posts had repressed not quenched the people's rage. On the 22nd of July seven men of the village of Nimbhat in Bhimthadi, besides robbing papers, cut off the nose of a man who was enforcing a civil decree which had put him in possession of land belonging to one of the men who attacked him. On the 28th of July the villagers of Karhati in Bhimthadi broke into the house of a Marwari moneylender and took a store of grain. The Marwari had refused to advance grain except on terms to which they could not agree. [Beside these two cases in Poona, on the 8th of September in the village of Kukrur in the Valva sub-division of Satara more than 100 miles from the nearest disturbed part of Poona, a riotous outrage was committed in all respects similar to the Poona and Ahmadnagar riots. About 100 or more villagers attacked, plundered, and burnt the house of a leading Gnjar moneylender, gathered all the papers and accounts which they found in the house, destroyed them, and dispersed. The cause was declared to be the harsh proceedings of the moneylender against his debtors.]

The most remarkable feature of these disturbances was the small amount of serious crime. A direct appeal to physical force, over a large area, was usually restrained within the limits of a demonstration. The few cases which bear the vindictive spirit usually shown in agrarian disturbances were probably due to the presence of other rioters besides the ordinary Kunbi peasantry. This moderation is in some measure to be attributed to the nature of the movement. It was not so

much a revolt against the oppressor, as an attempt to accomplish a definite and practical object, the disarming of the enemy by taking his weapons, his bonds and accounts. For this purpose a mere demonstration of force was usually enough. Another circumstance which contributed to the moderation of the peasantry was that in many cases the movement was led or shared by the heads of the village. It was doubtless an aggravation of the breach of law that those who should have maintained order contributed to disturb it. Still an assembly of villagers acting under their natural leaders for a definite object was a less dangerous body than a mob of rioters with no responsible head. The chief cause of the moderation was the natural law-abiding spirit of the Kunbi peasantry. In so orderly and peaceful a people such a widespread resort to force proved the reality of their grievances. [Deccan Riots Commission Report, 7.]

[Deccan Riots Commission.](#)

That the riots ceased was due not merely to the prompt action of the police and the military, but to the assurance of the civil authorities that complaints should be inquired into and proved grievances redressed. Accordingly in 1875 the Bombay Government appointed a commission to inquire into the causes underlying the outbreak. The members of the commission were Messrs. Richey and Lyon of the Revenue and Judicial branches of the Bombay Civil Service, Mr. Colvin of the Bengal Civil Service, and Rav Bahadur Shambhuprasad Laxmilal a distinguished Gujarati administrator. Subsequently Mr. Carpenter of the Bengal Civil Service took the place of Mr. Colvin whose services were elsewhere required. The Commissioners held inquiries in disturbed parts, recorded the statements of landholders and of lenders, and compiled other evidence obtained on the spot and in the records of Government. Their report, which was submitted to Government in 1876, contained a detailed history of the relations of the Deccan landholders and moneylenders since the beginning of British rule.

The result of the commissioners' inquiries into the relations between moneylenders and husbandmen in the Deccan was that the normal condition of the bulk of the landholders was one of debt. About one-third of the landholders were pressed by debt, averaging about eighteen times their yearly rental and about two-thirds of it secured by mortgage of land. Of the two-thirds who were not embarrassed some were well-to-do. But immediately above the embarrassed was a class with little property to fall back on whom a succession of bad years or a fall in produce prices would plunge in debt. [In twelve villages, of

1876 holders of land, 523 who paid a total yearly rental of Rs. 10,603, were embarrassed with debt. The debt amounted to Rs. 1,94,242 of which Rs. 1,18,009 were on personal security and Rs. 76,233 on mortgage of land. In another 24 villages the number of occupancies held by lenders in the years 1854, 1864 and 1874, with their area and the assessment payable at each period, were:

ITEM.	1854.	1864.	1874.
Holdings	164	203	272
Acres	4001	5292	10,075
Assessment	1924	3721	7134

In noting these figures it must be remembered that during the latter part of the period embraced, there was little unoccupied waste and the increase in lenders' holdings implies a corresponding decrease in the holdings of the cultivating class. It will be observed that the increase in the assessment is greater than the increase in area showing that the better class of land was passing into the lenders' hands, and further that the increase in the number of holdings shows an increase in the number of lenders, Deccan Biota Commission Report, 33. The estate of an average Kunbi landholder, exclusive of his land and its produce, was estimated to have a sale value of little more than £20 (Rs. 200).

The details are: live stock its. 125, tools and vessels Rs. 20, house Rs. 50, and miscellaneous Rs. 20; total Rs. 215. These items are subject to depreciation and imply yearly charges for maintenance and renewal.]

The district lenders belonged to three classes. The first class included small traders and village moneylenders, mostly Marwar and Gujarat Vanis and a few Lingayat and Vaish Vanis and Brahmans chiefly village accountants. These advanced grain for seed and food and money upon pledge, mortgage, and good security. They were specially hateful to the people and on them fell the burden of the 1875 troubles. The second class were the rich bankers or traders of large towns. Among these, besides Gujarat, Lingayat, Marwar, and Vaish Vanis, were many Yajurvedi Deshasth Brahmans. The village accountants or *kulkarnis* who were small moneylenders were generally closely connected with these Brahman bankers. They had also relations with pleaders and to some extent with local officials. They dealt much less in grain advances than the lower class of traders. In the same way as *kulkarnis*

acted as agents to rich pleaders and other moneylending Brahmans so small village Vanis were often the agents of their rich cnsstefellows. The Brahman and Vani lenders who worked through Brahman and Vani village agents were less unpopular than the Marwar lenders. Those who were Brahmans derived some advantage from their caste and community of country and religion. Still as a body they were bad landlords and most intriguing and scheming. The third class consisted of husbandmen who had kept out of debt and were able to make their neighbours small advances in money and grain. They were often grasping and dishonest, but their debtors dealt with them much more on an equality, and community of race and residence not only tended to kindly treatment but brought any unusual villainy under the ban of the public opinion of the caste and village. Most of them were husbandmen and valuable landholders. Husbandmen lenders were sometimes threatened during the 1875 riots but in no case was a lender of this class injured.

A notable feature of the moneylenders' dealings was the system of retail business which reduced even the most trivial transactions to written contracts. The invariable use of bonds was probably partly due to the precarious character of the landholder's assets and partly to the uncertainty of the climate. The terms on which the moneylenders dealt were that every debit was to be protected by a bond giving them unlimited powers of recovery and that the credit side was to be left to their own honesty. Account current was hardly known. There was usually a debt of long standing, probably inherited, the interest of which made a yearly debit. Besides this debit there were the give-and-take or *devghev* dealings, in which the debtor delivered his produce, or as much produce as he was forced to deliver, to his creditor and the creditor supplied the debtor's needs, clothing, assessment, seed, food, and cash for miscellaneous expenses. Every now and then a larger item appeared on either side, a standing crop was perhaps sold after a valuation either to the creditor himself or another, the creditor in the latter case getting the price paid, or a pair of bullocks or a cow and calf were given to the creditor on account. Against this the debtor drew occasionally a considerable sum for a marriage, for the purchase of land or bullocks or a standing crop, or for digging a well. Bonds were continually passed as the account went on. Sometimes a bond was taken as a deposit and the debtor drew against it, or a small transaction was included in a larger bond and the debtor was to draw against the balance. Marwari moneylenders kept accounts, but often only in the form of a memorandum book. Moneylenders who did not belong to the trading classes often kept no accounts. With all the bond was the recognized record of the transactions. Bonds were never or

very rarely made for large amounts. When a large debt was to be reduced to paper, several bonds were drawn. Thus a debt of £17 10s. (Rs. 175) would be represented by one bond of £10 (Rs. 100), another of £5 (Rs. 50), and a third of £2 10s. (Rs. 25). The chief object of this arrangement was that the moneylender might get a decree without much cost. A decree on the £2 10s. (Rs. 25) bond usually gave him power enough to force his debtor to meet demands on account of the entire debt of £17 10s. (Rs. 175). Again, interest usually ceased when a bond was turned into a decree, so that it was not to the bondholder's advantage to take a decree to meet the whole debt. When the debt had reached an amount to meet which the borrower's personal security was not sufficient, it was commonly converted into a land mortgage. Where the debtor owned a well or a share in a well the well or share together with the watered land were preferred as security. Sometimes the joint security of another landholder was added to the personal bond. In such cases the joint surety usually had a direct interest in the loan, or as a near relation helped the debtor, or his security was obtained by private arrangement. Often before the mortgage of his land the debtor's house, bullocks, crops, and carts, or other movable property were mortgaged. When bullocks were mortgaged, the debtor had to pay for their hire which became the interest of the loan. When the mortgage of land was completed, the lender almost always began by leaving the debtor in occupation as tenant, and a form of mortgage existed in which the profits of the land were all that was mortgaged as the tenant was left in possession without any transfer or acknowledgment of the mortgagee's right, so long as the mortgager delivered the produce yearly. [The right of occupancy was not transferred to the creditor in the Government books as was generally the case in the neighbouring district of Ahmadnagar.] If the debtor failed to deliver the produce the mortgagee usually took possession. Sometimes the produce of the land was made to represent the interest of the loan; more usually a specific rate of interest was cited in the bond. The debtor held as tenant on every variety of terms and conditions. [These were often reduced to writing. They were either leases, deeds of partnership, or simple contracts in which a rent in money was stipulated. It would often be found that the rate was adjusted to cover the interest agreed on in the mortgage bond. As the amount of capital in the mortgage bond was usually more than the value of the land at twelve per cent interest, and as the rate of interest in the bond was usually at least eighteen per cent, it followed that the land would not yield the required sum and thus the mortgagee constantly received the full actual rent of the land and in addition exacted bonds for the yearly deficit. The rent was often settled in kind and the rates were mainly

determined by the power of the mortgagee to grind his tenant. One mortgagee's tenant in his statement to the Deccan Riots Commissioners used the following words, ' I till the land, but I have no right to take for my use any of the produce.' Doubtless under the hardest conditions the tenant who was bound to hand over the entire produce of a field to his creditor did take something. On the other hand much land was held by mortgagee's tenants at the usual rental terms, that is, half of the gross produce of dry and one-third of watered land, the mortgagee paying the assessment, and the seed and expenses being shared in the proportion of their respective interests in the crop. When the tenant paid in kind, his payments might exceed the amount of interest stipulated in the mortgage bond; but he kept no account of such payments and was generally found to have no connection of his responsibility for accounts. As the responsibility could not be enforced by the landholder it practically did not exist. Doubtless most mortgagee landlords had an account, but the landholder could not get it without going to court which to him was out of the question. Deccan Biota Commission Report, 62.] Another form of mortgage, which was usually entered into only when the parties had come to a final settlement, was the transfer of the land to be enjoyed for a certain number of years in satisfaction of the debt. When an agreement of this kind was made it usually happened that before the period ended, the mortgagee had established claims giving him a further lien on the land. A similar method of settlement by an instalment bond was gladly accepted by a debtor, but here again the failure to pay one instalment in a bad year usually gave the debt a fresh departure. The mortgagee landlord usually allowed the landholder to till the mortgaged land, and so long as the holder was left in this relation to his fields he accepted his fate without much bitterness. It often happened that owing to default in payment by the tenant, or to better terms being offered by another, or to the tenant's cattle and field-tools being sold in execution of decree, it ceased to be the interest of the mortgagee to leave the cultivation in the tenant's hands and the land was taken from him. Besides the security of the landholder's personal credit, stock, movables, house, lands, and the joint security of surety, the labour of the borrower was also mortgaged to the lender. The terms of this form of bond were that the debtor was to serve the creditor and that his wages were to be credited at the end of the year, or that a certain sum was to be worked out by service to the lender for a certain period. Sometimes the wife's labour was also included in the bond. The labour was given either in house or field service. The labourer got his food and clothing, and a monthly deduction of 2s. to 4s. (Rs. 1-2) was made from the debt. The labourer's whole time was at the lender's disposal. [Dr. Coats (Trans.

Bom. Lit. Soc. III. 239) has the following notice of labour mortgage at Loni in 1820. In return for an advance of money for a marriage, servants sometimes bind themselves to Berve their masters for a term of years for clothes, board, and lodging. About six years would be wanted to clear an advance of £10 (Rs. 100).]

The chief complaints made against moneylenders were that bonds usually ran at excessive interest; [In many cases in which the less intelligent husbandmen were the borrowers, the interest charged was so excessive as to amount to fraud and oppression.] that at every stage the borrower was defrauded by the lender and especially by the petty usurer; that the lender often declined to give accounts, refused receipts, omitted to credit payments or give interest on payments, and declined to carry out such stipulations in the bond as were in the borrower's favour. Forgery was sometimes practised and the landholder from his ignorance was unable to prevent his creditor from taking advantage of these nefarious practices. Another way in which the landholder suffered was by the reduction, under the Act of 1859, of the time during which money bonds were current to the small period of three years. A new bond must be entered into every three years and the interest being added up and a new account struck the amount of compound interest was swelled eventually to a very large sum. In addition to the compound interest the creditor usually took the opportunity of renewing a bond to extort fresh and burdensome stipulations under threats of suing his debtor in court, all of which added to the total of the debt. [In the minute of Mr. Shambhuprasad who sat on the Commission of 1875, a case is cited in which an advance of £1 (Rs. 10) was made in 1863. Sums amounting to £11 (Rs. 110) were paid from time to time, and, at the end of ten years, £22 (Rs. 220) were still due. Bombay Government Selection CLVII. 13.]

Besides these usual complaints of the cultivator against the moneylender he had the following grievances. When the cultivator was sued in court, at the outset he was met with fraud. From the creditor's influence over the subordinates of the court no summons was served and the court being told that the summons had been served gave a decree against the debtor in his absence. The distance he had to travel to a court prevented a defendant attending. [In the majority of cases it was alleged that the reason why the defendant did not appear was that he had no defence to make, that he had no money to pay for a pleader, that he was unwilling to lose the time involved in defending a suit, or that he was afraid of the subsequent vengeance of the creditor whom he had opposed.] The defence of a suit took longer than the

defendant could spare, and the judge had not time to go into the right of the defendant's case and make up to him for the want of counsel. The high costs of suits was another reason why the defendants declined to contest their cases. It was after the lender had gained his decree that the borrower suffered most. He might be arrested and imprisoned. Civil imprisonment was peculiarly open to abuse and was often made use of to impose on prisoners more severe terms than could otherwise be obtained. The next hardship to the landholding debtor was that movable property of all kinds and land could be sold without reserve. In spite of the harshness and the dishonesty of many of its members, the class of moneylenders was of the greatest service to the landholders. They helped them to meet their special family expenses and to enlarge their holdings and increase their stock, they tided them over seasons of scarcity and enabled them to pay their rents.

The Commissioners' chief recommendations were, with regard to the husbandmen's poverty, to improve agriculture by irrigation and to modify the Land Improvement Act so as to make the help which Government was ready to give more available to the husbandman; with regard to the revenue system, they advised the adjusting of the Government demand to the husbandmen's capacity and when the assessment was enhanced that the increase should be gradual; with regard to the defects of the law they advised that a Bill should be passed to prevent frauds, and to protect husbandmen in the first stages of debt before the creditor had gone to the civil court. The chief provisions of the proposed Bill were the appointment of public notaries and the enforcing of the delivery of receipts and accounts by creditors. To meet hardships incurred by the debtor through the excessive powers given to the decree-holder, the absence of all protection to the insolvent debtor, and the use of decrees as a threat, the Commissioners advised the passing of another Bill, the chief provisions of which were the abolition of imprisonment for debt, the exemption of necessaries from sale in execution, the protection of the judgment-debtor from the wrong use of a decree, making the decree the end of the suit, and the limitation of decrees. The Commissioners also recommended certain changes in the conduct of judicial business, the establishment of village courts, and the passing of an Insolvency Act.

New Civil Procedure Code (Act X of 1877).

Meanwhile the relation of the debtor and the creditor somewhat improved. The 1874-75 disturbances had opened the eyes of the creditors to the danger of treating their debtors too harshly, and the

famine of 1876-77 turned the thoughts both of creditors and debtors into other channels. A new Civil Procedure Code (Act X. of 1877) came into force in October 1877. Section 266 of the Code made the important change of exempting from attachment or sale in execution of decrees, tools, implements of husbandry, cattle enough to enable a judgment-debtor to earn his livelihood as a husbandman, and the materials of houses and other buildings belonging to and occupied by agriculturists. Under section 326 the Collector of the district is empowered to represent to the court that the public sale of land which has been attached in execution of a decree is objectionable and that satisfaction of the decree may be made by the temporary alienation or management of the land; that, therefore, the court may authorize the Collector to provide for the satisfaction of the decree in the manner which he recommends. Section 320 enables the local Government, with the sanction of the Governor General in Council, to declare that in any local area the execution of decrees of any particular kind in which the sale of land is involved, shall be transferred to the Collector, and sections 321 to 325 invest the Collector with powers to manage or to deal with the land as if it were his own and to adopt one or more of several modes of satisfying the decree without selling the land except in the last resort. [Poona was one of four districts to which this section was immediately applied the other districts were Ahmadnagar, Sholapur, and Satara,] By section 336, the local Government may direct that every judgment-debtor brought before a court in arrest in execution of a decree for money shall be informed by the court that he may apply to be declared insolvent. Section 358 shows special consideration to the debtor if the debt is less than £20 (Rs. 200). Thus in several respects the new code improved the debtor's position. To place the relations of the debtor and the creditor on a better footing it was deemed necessary, To provide some safeguard against the moneylenders committing frauds in their accounts and obtaining from ignorant peasants bonds for larger amounts than were actually paid to or due from them; As far as possible to arrange disputes by conciliation, to increase the number of courts, and so to simplify and cheapen justice that husbandmen might defend suits: To insist that in suits against landholders the court shall in certain cases of its own motion investigate the entire history of the transactions between the parties and do substantial justice between them; and To restrict the sale of the debtors' and in execution of a decree and to provide an insolvency procedure more liberal to the debtor than that of the Code of Civil procedure.

[Deccan Agriculturists Relief Act.](#)

To secure these objects the Deccan Agriculturists' Relief Act (Act XVII. of 1879) was passed by the Governor-General's Council. The principal object of legislation was to restore the dealings between lender and borrower to an equitable basis. The aid of the Government is withheld in the case of demands manifestly unfair and extortionate, and is rendered more speedy and effective in the recovery of just dues. As far as possible, credit is restricted within the limits set by the prospects of the certain recovery of the value of the amount lent. The first considerable change introduced by the Act was the appointment of village registrars before whom every instrument to which a landholder is a party must be registered before it can be used against him as evidence of his indebtedness. At first most of the persons appointed as village registrars were the hereditary village accountants of the larger villages, but, as their work was not satisfactory, special registrars have been substituted each being in charge of a circle of about twenty villages. The second notable point in the Act is the appointment of sixty-two conciliators, men of influence before whom the creditor must bring his claim before he can file a suit in the regular courts, and whose duty it is to assist in or bring about the compromise of money disputes. To compel litigants to have recourse to these conciliators it is enacted that a claim for money against a landholder is not to be entertained by the Civil Courts unless accompanied by a conciliator's certificate that he has attempted to effect a compromise. Such compromises are filed in the records of the Civil Courts and have the force of decrees. The next measure by increasing their number brought the courts more within reach of the people and made them less technical and less costly. The result is that only a few villages are more than ten miles distant from a civil court. Village munsiffs were also appointed and invested with summary powers extending to suits for the recovery of amounts not exceeding £1 (Rs. 10). Twenty three village munsiffs' appointments were made, and the individuals are pronounced fairly competent. The office was purely honorary. They disposed of a large number of suits, but as few of these were brought by or against landholders their institution afforded little or no relief to the cultivating classes. A special Judge and assistant judge and special subordinate judges have been appointed for the Poona, Satara, Sholapur, and Ahmadnagar districts to inspect and revise the work of the subordinate establishments instead of the ordinary right of appeal which has been withdrawn. Professional legal advisers have been excluded from the courts of the conciliators and village munsiffs and also from the courts of the subordinate judges when the subject-matter of a suit is less than £10 (Rs. 100) in value, unless for special reasons professional assistance seems to the subordinate judge to be necessary. This provision does not seem to have proved popular. In the

absence of the agent or *vakil* frequent personal attendance is required of the parties, and the waste of time and money is said to no greater than the cost of retaining counsel. A very important section makes it binding on the court to inquire into the history and merits of every claim brought before it with a view to testing its good faith. This provision is unpopular with the lender and is believed to have greatly influenced the number of suit instituted since the Act came into operation. Interest, too, is not to be awarded to an amount exceeding that of the capital debt as ascertained on taking the account. The person of the agriculturist is exempted from arrest and imprisonment, nor can his land be attached or sold unless it has been specially mortgaged for the repayment of the debt in question. If the court so directs, the land may be made over for a period to the management of the chief authority of the district with a view to the liquidation of the debt. Again the limitation in respect of money suits has been extended, payment of amounts decreed may be ordered by instalments, and a landholder can now be declared insolvent and be discharged summarily when his debts do not exceed £5 (Rs. 50), and in other cases after a procedure specified in the Act. The insolvency chapter continues wholly inoperative. The indifference of the debtor cannot be altogether explained on the ground of religious scruples or the fear of the loss of credit and social status. The Relief Act has conferred so many other privileges and immunities on the indebted landholders that the necessity of having resort to the extreme measure of seeking relief by insolvency has not made itself so much felt as might have been expected. The debtor's freedom from arrest and imprisonment, the exemption of his immovable unmortgaged property from attachment and sale, the large reductions in the amount of his debt effected by conciliation and the procedure under the Act, the privilege of paying the balance by easy instalments, and the consequent cessation from the perpetual worrying of his creditors, have given such real and substantial relief that the husbandmen sometimes declare that they want no more. They regard the resort to insolvency as a step into the unknown. No provision of the Act is more valued by the people than the rule which admits of a decree being paid by instalments. Whether a claim is admitted or contested the landholder rarely fails to put in a plea praying that the amount found due may be made payable by instalments. At the same time the circumstances of the debtor are inquired into, and instalments are not allowed indiscriminately.

The Special Judge believes (1882-83) that the Relief Act has done, and is doing, a vast amount of good. It has succeeded in effecting many of its principal objects. It has checked the downward progress of the

landholders, and given them, what they so sorely needed, an interval of repose after a trying period of distress and famine. The landholding classes have never been so contented as they are at present (1882-83). They can reap the fruit of their labour; they are protected from the constant harassing to which they were formerly subject; they no longer live in ceaseless terror of rack-renting eviction and imprisonment. When the worst comes they are sure of obtaining a fair and patient hearing in the courts, and, if they have a good defence, they are in a better position to prove it. They are allowed to pay what is justly due by them in instalments, and this privilege they seem to value more highly than any other granted by the Act. The courts are now more accessible, more absolute, less technical, less slow, and less costly. The provisions of the Act have tended to soften the extreme severity with which the law pressed on debtors, and the judges are able to modify the contracts in an equitable spirit. The moneylenders complain of the Act, and middlemen lenders have suffered and are likely to suffer; nor can it be denied that to some extent the Act has checked the old system of agricultural loans. The husbandman's credit has been greatly curtailed. Still this is a gain as the system under which the husbandman used to obtain advances had no elements of soundness. The husbandman was not an independent borrower; borrowing was a necessity to him arising from the very faults of the system. The change has been wrought, not by the power given to the courts of going behind the bond, or of granting instalments, but by the provisions which exempt the landholder's person from arrest, and his necessities and his immovable property from attachment. The powers which the creditor enjoyed under the old law were used, not to realize his loan, but to prolong indefinitely a state of indebtedness which enabled him to turn his debtor and his debtors' descendants into his family serfs. A debt was a lasting and in the long run a safe and paying investment. The security on which the greedy middleman used to lend was the knowledge, that, with the aid of the rigid mechanism of the civil courts, he could gain and keep an hereditary hold upon the labour of his debtor and his debtor's family and grind them at his will. Hence it was that the creditors used to pay their debtors' assessment and help to keep them alive by doles of food during times of distress. They were actuated by self-interest not by benevolence. They could not suffer their investments to perish. The Relief Act has caused a great change. By withdrawing the special facilities which creditors enjoyed for putting all kinds of pressure on the debtor it has made the debtors more independent and self-reliant and the creditor less ready to make advances. As the husbandman can no longer depend on the moneylender he has for the necessities of life adopted a new rule of conduct, the consequence of which is that not only are moneylenders

more disinclined to lend, but that the same necessity for borrowing no longer exists. Formerly the husbandman when his crops were reaped thrashed and garnered, carted them in lump to his creditor's house or shop. The creditor took them over and entered in his books very much what value he pleased, generally in satisfaction of arrears of interest. As he had parted with all his crop, the husbandman had to borrow fresh sums in cash or grain to meet the instalments of land revenue, for his own support, and for seed. For each fresh advance he had to execute a fresh bond. Now the husbandman carries the produce of his field to his own house, and, keeping what he thinks sufficient for his household purposes, sells the rest in the best market he can find. He has learnt in a measure to be thrifty and provident. He is no longer beset by the necessity of borrowing at every turn. For months beforehand the husbandman now begins to make preparations for the payment of the assessment by selling grass, butter, goats and cows, and last of all their grain. This seems to be the chief reason why loans to the poorer classes of landholders have so greatly diminished. This is the class who were formerly wholly dependent on the moneylenders. Now they are obliged, and somehow manage, to shift for themselves. The solvent and independent landholders form a class by themselves; the Act has improved their condition without in the least impairing their credit. Men of this class, if they have a character for honesty, can borrow money for necessary purposes at reasonable interest, and their borrowing powers have not been injuriously affected. To this class, unfortunately, but a small proportion of the people belong. The bulk of the landholders consists of men who have not, and who long have ceased to have, any credit in the true sense of the word. Though nominally perhaps owners of their land, they have actually been the rack-rented tenants of the village moneylender to whom belonged the fruits of their toil. If the moneylender can no longer squeeze them, he will no longer help them. Hence the dislocation of the old relations, and the fall in loans to husbandmen. The change is a change for the better. The question arises whether the general body of landholders can get on without borrowing. Experience seems to show that they can and do get on. Since 1879, there have been no unusual difficulties in realizing the Government land revenue; there has been no large or sudden throwing up of land; there have been no extensive transfers, either by revenue, judicial, or private sales. The landholders seem to be no better off than they were before the Relief Act was passed. The decrease in fresh loans has led to a diminution of indebtedness; old debts are being gradually worked off, compromised, or barred by time; a good beginning has been made towards clearing off the load of debt; the people as a rule, are sensible of the change, and in consequence show a growing desire to practise thrift and to combine for purposes of

mutual help. Many experienced revenue and judicial officers hold that, if the present conditions remain unchanged, a few more years will see the landholders to a great extent free from debt and able to stand on their own legs. At the same time it is to be remembered that the last three seasons have been seasons of average prosperity and that the Act has not yet stood the test of a failure of crops. Matters are still in a transition state, and during a transition period it would be unreasonable to expect the Act to endure a severe strain. Once freed from debt the landholder will be able to get on without borrowing in ordinary years. In periods of scarcity or distress he will have to look to Government for help, unless in the meantime the relations of the lending and the borrowing classes are placed on a more rational footing than that on which they rested in times past. The Relief Act has done much to restore solvency to the most important class in the district with the least possible disturbance of the relations between capital and labour.

SLAVES.

Under the Peshwas slavery was an acknowledged institution. In 1819 in the township of Loni in a population of 557 Dr. Coats found eighteen slaves, eight men seven women and three girls. [Trans. Bombay Lit. Soc, III. 194, 239. See also Steele's *Hindus Laws and Customs*.] One of the families though not formally free had practically been set free by its master in reward for good conduct. This family lived in a separate house and tilled on their own account. The other slaves lived in their masters' houses. All were well treated. They were clad and fed in the same way as the members of their masters' families; almost the only difference was that they ate by themselves. If they behaved well, they had pocket-money given them on holidays, and their masters paid £5 to £6 (Rs. 50-60) to meet their wedding expenses. The men worked in the fields and the women helped their mistresses. Some of the girls were their master's concubines. All of the eighteen slaves were home-born; the mothers of some had been brought from Hindustan and the Karnatak. Slaves were sometimes set free as a religious act, sometimes in reward for good conduct, Sometimes because they were burdensome. A freed slave was called a Shinda; they were looked down on, and people did not marry with them. Traffic in slaves was thought disreputable and was uncommon. Boys were rarely brought to market. Sales of girls were less uncommon. If beautiful they were bought as mistresses or by courtezans, the price varying from £10 to £50 (Rs. 100- 500). Plain girls were bought as servants in Brahman houses.

In 1821, the Collector Captain Robertson, reported that the only form of slavery in Poona was domestic slavery. A person became a slave who was sold in infancy by his parents, or who was kidnapped by Lamans and thieves. Few slaves knew their kinspeople or were related to the people of the surrounding country. Children kidnapped in distant provinces were brought to Poona for sale and Poona children stolen or sold by their parents in times of famine were carried to other parts of India. [East India Papers, IV. 589-90. In a country like India subject to severe famines the relief which was afforded by the inhabitants of a neighbouring province purchasing the children of famished parents, greatly counterbalanced the loss of freedom, especially as the state of slavery was soothed by kind treatment and regard.] A man also became a slave to his creditor when he could not pay his debt, but this happened only when the debtor was a Kunbi or a Dhangar and the creditor a Brahman. Only three instances came to Captain Robertson's knowledge in which creditors had chosen to enslave their debtors. [In 1821 many debtors could not discharge their obligations but the creditors almost never wanted to make their debtors slaves. East India Papers, IV, 589-90.] Slaves were treated with great kindness. The general feeling was that no one should ill use a slave. Cases sometimes happened in which slaves were severely beaten by their masters or had their powers of work overtaxed. In such cases the Hindu law officers generally recommended that the slaves should be set free. When male slaves grew to manhood their masters often set them free, but female slaves were seldom freed, and their children were also slaves. The slaves, especially the females, when they lost their freedom in infancy, became attached to their mode of life and had no wish to be free. They were generally fond of their master's family, or of some members of the family, and would have felt more pain in being separated from them than pleasure in gaining their liberty. Instances occurred in which female slaves complained of the cruelty of one member of the family, but when offered their liberty refused to leave the family either because of their love for other members of it or because they feared to be set adrift in the world.

WAGES.

Fifty years ago the daily wages of adult male city labourers ranged from $2\frac{1}{2}d.$ to $3d.$ ($1\frac{1}{2}$ - 2 *as.*), of field labourers from $1\frac{1}{2}d.$ to $2\frac{1}{4}d.$ (1 - $1\frac{1}{2}$ *as.*), and of the artisan classes from $4\frac{1}{2}d.$ to $9d.$ (3 - 6 *as.*). The wages of women were two-thirds and of children one-half of men's wages. Between 1862 and 1869, owing to the American war and the construction of the railway and large Government and private buildings in Poona, wages considerably rose, being half as much again as at

present. At present (1883) the daily wages of town and city labourers range from 4½*d.* to 6*d.* (3-4 *as.*); of field labourers from 3*d.* to 4½*d.* (2-3 *as.*) ; and of skilled artisans from 9*d.* to 1*s.* 3*d.* (6-10 *as.*) for bricklayers, 1*s.* to 1*s.* 6*d.* (8-12 *as.*) for carpenters and masons, and 6*d.* to 1*s.* (4-8 *as.*) for tailors. Cart-hire is 1*s.* 9 (14 *as.*) and camel hire 1*s.* (8 *as.*) a day. Field labour is partly paid in kind and partly in coin; town labourers are paid wholly in coin. In villages, wages are paid daily, and in towns by the week, fortnight, or month. Except field labour which is chiefly required from August to March, labour, both skilled and unskilled, is in greatest demand during the fair season, that is from January to June. The demand for unskilled or cooly labour in Poona city is greater than it used to be.

PRICES.

The oldest available produce prices are for twenty-nine years of scarcity which happened during the forty-eight years ending 1810. [Lieut.-Col. A.. T. Etheridge's Report on Past Famines (1868) Appendix D.] During these twenty-nine years of high prices the rupee price of rice varied from forty pounds in 1788 to five pounds in 1804, of *bajri* from fifty-six in 1788 to nine in 1804, and of *jvari* from fifty-six in 1788 to seven in 1804. The details are:

Poona Produce Prices Pound the Rupee, 1763-1810.

ARTICLE.	1763.	1765.	1770.	1772.	1773.	1776.	1777.	1778.
Rice	36	20	20	34	23	34	32	32
<i>Bajri</i>	40	28	32	35	44	40	44	44
<i>Jvari</i>	--	--	--	--	52	48	48	48
Wheat	21	23	56	22	26	36	40	32
<i>Tur</i>	16	30	16	--	40	32	32	38
Gram	21	24	10	37½	33	--	24	24

continue.

ARTICLE.	1879.	1781.	1786.	1787.	1788.	1789.	1791
Rice	30	32	--	23	40	36	26
<i>Bajri</i>	36	54	50	48	56	44	32

<i>Jvari</i>	44	56	58	48	56	54	48
	37	50	42	22	48	28	22
<i>Tur</i>	40	46	52	24	26	32	24
Gram	42	38	44	48	20	18	--

ARTICLE.	1792	1793	1798	1799	1800	1802	1803	1804	1805	1806	1807	1808	1809	1810
Rice	8	9	36	40	24	20	8	5	14	14	14	32	32	32
<i>Bajri</i>	7	--	--	--	36	28	12	9	20	44	--	--	--	--
<i>Jvari</i>	8	--	--	--	48	29	12	7	12	20	--	--	--	--
Wheat	--	8	20	24	18	19	8	5	12	19½	25	32	32	44
<i>Tur</i>	6	9	17	20	24	--	8	3½	10	16	20	32	24	18
Gram	--	8	16	16	24	32	10	9½	13	20	26	28	29	20

During the twenty-nine years ending 1837 the prices of *jvari* and *bajri* are available only for Indapur. During this period, except a slight rise in 1811 and 1810, prices gradually fell from 48 pounds of *jvari* and 59 pounds of *bajri* in 1809 to 97 pounds of *jvari* and 80 pounds of *bajri* in 1817. In 1818 there was a considerable and in 1819 there was a still greater rise in produce prices to thirty-four pounds for *jvari* and thirty-one pounds for *bajri*, from an average of fifty-six pounds for *jvari* and fifty-five pounds for *bajri* during the ten years ending 1817. In 1820 the spread of tillage which followed the establishment of order, again brought down prices till in 1824 *jvari* was sold at 73½ pounds the rupee and *bajri* at forty-six pounds. In the famine year of 1824-25 *jvari* rose to twenty-five pounds. In 1826 and 1827 prices fell to eighty-eight and 128 pounds for *jvari* and sixty-eight and sixty-four pounds for *bajri*. They rose slightly in 1828, and in 1829 again fell to 130 pounds for *jvari* and 136 for *bajri*. In 1830 and 1831 prices rose slightly and in 1832 once more fell to 120 pounds for *jvari* and to seventy for *bajri*. This terrible cheapness of grain reduced the husbandmen to poverty and caused Government very great loss of revenue. Though the year 1833 is remembered as a year of scarcity *jvari* did not rise above forty-six pounds. The details are:

Indapur Prices in Pounds the Rupee. 1800-1837.

ARTICLE.	1809.	1810.	1811.	1812.	1813.	1814.	1815.	1816.	1817.	AVER- AGE.
<i>Jvari</i>	48	48	44	51	54	50	67	52	97	56
<i>Bajri</i>	59	40	37½	43½	46	64	61	72	80	55
	1818.	1819.	1820.	1821.	1822.	1823.	1824.	1825. Famine	1826.	1827
<i>Jvari</i>	48	34	39	64	64	64	73½	26	88	123
<i>Bajri</i>	32	31	--	32	--	48	46	--	68	64
	1829.	1829.	1830.	1831.	1832.	1833. Scarcity.	1834.	1835.	1836.	1837.
<i>Jvari</i>	64	160	02	80	120	40	92	96	76	132
<i>Bajri</i>	--	136	--	77	70	72	68	88	--	98

From 1838-39 to 1882 prices are available for several places in the district.

The forty-six years ending 1882 may be divided into four periods. The first period includes the twelve years ending 1849-50. This was a time of low and stationary prices without any more marked changes than were due to the succession of comparatively good and bad harvests. The average rupee price of *jvari* was 108 pounds, almost the same as in 1837-38, a price too low to allow of any increase of wealth in the landholding classes. The second period, the eleven years ending 1860-61, especially the latter part of the period, is one of advancing prices probably due to the opening of roads and in the last years to the beginning of expenditure on railways. During the eleven years ending 1860-61 the average rupee price of *jvari* was seventy-eight pounds and during the last five years seventy pounds. The third period is the ten years ending 1870-71. The first five years of this period was a time of extremely high prices, *jvari* averaging thirty-six pounds the rupee. These high prices were due partly to the abundance of money caused by the inflow of capital during the American war, partly to a succession of bad years. with the close of the American war in 1865 part of the inflow of capital ceased. After 1865, though the inflow of capital connect-ed with the American war ceased, until 1871 the district continued to be enriched by the construction of great public works. To this increase of wealth was added a scarcity of grain caused

by the severe drought of 1866-67, and the partial failures of 1807-68 and of 1870-71. During the five years ending 1870-71 *jvari* varied in rupee price from twenty-seven to sixty-eight and averaged thirty-five pounds. The thirteen years since 1871 may be described as a time of falling prices checked by the famine of 1876-77. The five seasons ending 1876 were years of good harvests and this together with the great reduction in the local expenditure on public works combined to cheapen grain. During the famine of 1876-77, that is from about November 1876 to the close of 1877, *jvari* varied from thirteen to twenty-five and averaged twenty pounds. Since 1877 large sums have again been spent in or near the district in public works, and the great increase in the trade and prosperity of Bombay have drawn large numbers of workers to Bombay and done much to replace the loss of capital caused by the famine. The seasons have been fair. The price of *jvari* has varied from eighteen to seventy-six and averaged forty-two pounds. The details are:

Poona Produce Prices in Pounds the Rupee, 1838-39 to 1882-83.

ARTICLE.	Indpur.	Yevat.	Poona.	Supa.	Talegaon.	Manchar.
	1838-39.					
<i>Jvari</i>	134	--	--	--	--	--
<i>Bajri</i>	60	--	--	--	--	--
	1839-40.					
<i>Jvari</i>	88	--	--	--	--	--
<i>Bajri</i>	60	--	--	--	--	--
	1840-41.					
<i>Jvari</i>	128	--	--	88	--	--
<i>Bajri</i>	88	--	--	62	--	--
	1841-42.					
<i>Jvari</i>	112	95	60	92	88	92
<i>Bajri</i>	80	72	48	68	70	84
	1842-43.					
<i>Jvari</i>	136	110	64	92	106	96
<i>Bajri</i>	84	69	56	70	76	68

	1843-44.					
<i>Jvari</i>	144	128	60	128	134	120
<i>Bajri</i>	88	96	60	80	78	86
	1844-45.					
<i>Jvari</i>	120	100	54	89	68	92
<i>Bajri</i>	72	76	46	73	60	84
	1845-46.					
<i>Jvari</i>	72	50	32	50½	54	56
<i>Bajri</i>	50	46	36	46½	46	46
	1846-47.					
<i>Jvari</i>	30	31	32	31	48	56
<i>Bajri</i>	26	30	28	30½	46	52
	1847-48.					
<i>Jvari</i>	96	74	62	71½	134	110
<i>Bajri</i>	64	60	54	60	110	88

continue.

ARTICLE.	Indpur.	Yevat.	Poona.	Supa.	Talegaon.	Manchar.
	1848-49.					
<i>Jvari</i>	144	187	110	121	186	144
<i>Bajri</i>	112	105	82	100½	132	116
	1849-50.					
<i>Jvari</i>	144	128	94	128	186	116
<i>Bajri</i>	113	104	74	104	106	84
	1850-51.					
<i>Jvari</i>	76	72	60	64	68	68
<i>Bajri</i>	68	75	50	59	54	56
	1851-52.					
<i>Jvari</i>	80	72	66	73	80	68

<i>Bajri</i>	64	51	50	58½	68	60
	1852-53.					
<i>Jvari</i>	112	74	74	79	104	58
<i>Bajri</i>	80	58	58	76	78	84
	1853-54.					
<i>Jvari</i>	112	114	84	107	70	60
<i>Bajri</i>	72	89	72	80	52	54
	1854-55.					
<i>Jvari</i>	58	55	50	50	46	52
<i>Bajri</i>	52	46	44	47	44	46
	1855-56.					
<i>Jvari</i>	64	80	56	61½	78	48
<i>Bajri</i>	58	62	50	56	70	44
	1856-57.					
<i>Jvari</i>	64	52	50	45	62	68
<i>Bajri</i>	56	48	42	40	52	60
	1857-58.					
<i>Jvari</i>	78	68	52	57	62	60
<i>Bajri</i>	74	54	46	48½	54	52

continue.

ARTICLE.	Indpur.	Yevat.	Poona.	Supa.	Talegaon.	Manchar.
	1858-59.					
<i>Jvari</i>	64	52	54	52	74	70
<i>Bajri</i>	36	42	46	42	58	62
	1859-60.					
<i>Jvari</i>	78	80	68	77	114	88
<i>Bajri</i>	62	65	50	64	80	68

	1860-61.					
<i>Jvari</i>	66	73	52	72	86	68
<i>Bajri</i>	46	56	42	53	52	54
	1861-62.					
<i>Jvari</i>	54	60	52	57	56	58
<i>Bajri</i>	38	57	38	44	46	46
	1862-63.					
<i>Jvari</i>	32	45	40	38	30	34
<i>Bajri</i>	32	36	30	30	26	30
	1863-64.					
<i>Jvari</i>	26	31	22	27	30	32
<i>Bajri</i>	24	20	18	20	26	28
	1864-65.					
<i>Jvari</i>	32	22	24	24	24	26
<i>Bajri</i>	28	21	20	20½	20	20
	1865-66.					
<i>Jvari</i>	36	32	26	35	54	46
<i>Bajri</i>	30	24	22	23½	40	34
	1866-67.					
<i>Jvari</i>	--	44	36	27½	32	48
<i>Bajri</i>	--	39	32	28	30	38
	1867-68.					
<i>Jvari</i>	--	28	26	28	40	38
<i>Bajri</i>	--	24	22	26	32	24

*Poona Produce Prices in Pounds the Rupee, 1838-39 to 1882-83—
continued.*

ARTICLE.	Indapur.	Yevat.	Poona	Supa.	Telegaon.	Manchar.
	1868-69.					
<i>Jvari</i>	--	65	46	64	40	68
<i>Bajri</i>	--	39	32	43	44	42
	1869-70.					
<i>Jvari</i>	--	30	32	27	44	38
<i>Bajri</i>	--	27	26	27	34	28
	1870-71.					
<i>Jvari</i>	--	36	34	37	38	42
<i>Bajri</i>	--	30	28	31½	30	32
	1871-72.					
<i>Jvari</i>	30	24	22	20	32	47
<i>Bajri</i>	24	20	19	12	24	43
	1872-73.					
<i>Jvari</i>	34	48	28	44	60	57
<i>Bajri</i>	24	40	20	38	50	52

continue.

ARTICLE.	Indapur.	Yevat.	Poona.	Supa.	Telegaon.	Manchar.
	1873-74.					
<i>Jvari</i>	60	58	48	64	70	74
<i>Bajri</i>	50	44	34	48	55	66
	1874-75.					

<i>Jvari</i>	92	72	60	64	80	57
<i>Bajri</i>	70	56	44	64	60	47
	1875-76.					
<i>Jvari</i>	76	64	56	56	60	24
<i>Bajri</i>	68	52	42	44	45	22
	1876-77.					
<i>Jvari</i>	46	18	38	11	30	13
<i>Bajri</i>	40	18	30	10	25	12
	1877-78.					
<i>Jvari</i>	18	22	18	14	35	36
<i>Bajri</i>	18	20	18	13	30	24

continue.

ARTICLE.	Indapur.	Yevat.	Poona.	Supa.	Telegaon.	Manchar.
	1878-79.					
<i>Jvari</i>	20	22	20	18	40	36
<i>Bajri</i>	20	24	18	16	35	24
	1879-80.					
<i>Jvari</i>	18	22	18	18	50	47
<i>Bajri</i>	18	20	18	22	40	31
	1880-81.					
<i>Jvari</i>	28	26	28	24	60	60
<i>Bajri</i>	20	20	24	18	50	50
	1881-82.					
<i>Jvari</i>	76	56	50	52	60	66

<i>Bajri</i>	48	42	38	40	45	47
	1882-83.					
<i>Jvari</i>	62	52	64	52	55	52
<i>Bajri</i>	46	40	46	40	45	43

WEIGHTS AND MEASURES.

Articles are sold by weight, by measure, and by number. Pearls, precious stones, cotton, tobacco, raw and clarified butter, oil, spices, groceries, firewood in Poona city, opium sweetmeats, and some vegetables and fruits are sold by weight. In the case of pearls and precious stones the weights used are grains of barley *jav*, rice *tandul*, wheat *gahu*, and *rati*. *Rati*, originally the seed of the *Abrus precatorius*, is now generally a small piece of copper or flint weighing $2\frac{1}{4}$ to $2\frac{3}{4}$ grains. The price of pearls is not fixed at so much the *rati* but at so much the *chav* a measure or standard obtained from a calculation based on the number and weight of the pearls, and divided into 100 *dokdas* or parts. [To reduce *ratis* to *chavs* the square of the number of *ratis* is multiplied by 55 and the product divided by 96 times the number of pearls. Thus if 11 pearls weighing 24 *ratis* are to be bought at Rs. 8 the *chav*, the price would be $24 \times 24 \times 55 \times 8 / 96 \times 11 = 240$ rupees.] The table observed in the case of gold is eight *gunjs* one *masa*; $2\frac{4}{5}$ *gunjs* one *val*; six *masas* one *sahamasa*; two *sahamasas* or twelve *masas* or forty *vals*, one *tola*. The *gunj* is red and about the size of a small pea is the seed of a wild creeper and the *val* which is also red and a little larger is the seed of the *chilhari* tree. The *masa*, *sahamasa*, and *tola* are square, eight-cornered, or oblong pieces of brass and sometimes of China or of delf. The *tola* weighs a little more than the average Imperial rupee in use which is equal to $11\frac{1}{4}$ *masas*. In weighing silver and fragrant oils and essences the Imperial rupee is always used. But as owing to wear it is not always of uniform weight discount at the rate of eight per cent is allowed in wholesale purchases of silver. For cheaper metals and other articles sold by weight the unit of weight is a *sher* weighing seventy-six rupees, with its fractions the *navtak* or one-eighth, *pavsher* or one-fourth, and *achher* or one-half. For quantities of over a *sher* the table for metals and other articles sold by weight is four *shers* one *dhadi* and sixteen *shers* one *man*. In the case of oils, raw and clarified butter, spices, raw sugar *gul*, groceries, and tobacco the table is forty *shers* one *man*, and three *mans* one *palla*. For firewood where sold by weight the table used is

eighty pounds one *man* and twenty *mans* one *khandi*. Except in the case of firewood and similar heavy substances, where stone weights are used, all the weights are made of iron, generally English-made avoirdupois weights with the pound unit scooped out at the back to bring them to the exact weight. Grain is measured by wooden cylinders with narrow necks in the middle to admit of their being held in the hand with ease. The unit of measurement is also a *sher* having the same fractions as the weight unit. The contents of a *sher* measure, which is equal to $2\frac{3}{8}$ pints, weigh seventy-six to ninety-eight rupees. The table observed is four *shers* one *payli*, twelve *paylis* one *man*, $2\frac{1}{2}$ *mans* one *palla*, and eight *pallas* one *khandi*. [In 1821 there were three tallies of grain measures. The *sher* was the same in all three and, taking the average of the whole, the weight of one measured *sher* of *bajri*, *math*, *mug*, *sava*, *jvari*, *udid*, *vatana*, wheat, and *masur*, was one-fourteenth of a pound more than $2\frac{1}{2}$ pounds avoirdupois. The first table was four *shers* one *payli*, twelve *paylis* one *man*, and twenty *mans* one *khandi*. This *baroli* or twelve-*payli man* was the common *man* and the one in use in the town of Poona. The second table was four *shers* one *payli*, sixteen *paylis* one *man*, and twenty *mans* one *khandi*. This *sololi* or sixteen-*payli man* was used in the village group of Sandus in Pitas and to the southward. The third table was $3\frac{1}{2}$ *shers* one *payli*, forty-two *shers* or twelve *paylis* one *man*, and twenty *mans* one *khandi*. This was used in the Mavals or hilly west. Captain H. D. Robertson, East India Papers, IV. 572.] Standard weights and measures are kept in every mamlatdar's office, and, once a year, all weights and measures are tested and stamped by the police. Brass and copper pots serving as a quarter, a half, and a whole 76-rupee *sher* are used for measuring milk and small quantities of oil. Clarified butter when brought for sale in small quantities by the people of the western hills is also sold by these capacity measures. Leaf vegetables are sold by the bundle, grass and *jvari* stalks are sold by the *pachunda* or five bundles, firewood is sold by the headload or the cartload, and cowdung-cakes by number. Mangoes are sold wholesale by a hundred or *shekda* equal to 312. Betel leaves are sold by the hundred or the thousand. In measuring cloth either the *gaj* or the yard is used. In the case of the *gaj* the table used is eight *yavs* one *anguli* or thumb breadth ; two *angulis* one *tosa* of $1\frac{1}{2}$ inches; twelve *tasus* one *hat* or cubit of eighteen inches, and two *hats* one *gaj* of three feet. Ready-made clothes, waistcloths or *dhotars*, and scarfs or *uparnas* are sold in pairs; other articles of clothing are sold singly except shoes and stockings which are sold by the pair. Bricks and tiles are sold by the thousand, rafters and bamboos by the hundred, squared timber by its cubic contents, and unsquared timber by the piece. Heaps of gravel or *murum*, of road-metal or *khadi*, and of sand earth and stone are

measured by their cubic contents, the usual unit of measurement being a *baras* of 100 cubic feet. Cut stone is sold by the square *gaj* equal to eight square feet. Before the revenue survey the land measure was three *mushtis* or fists one *vit*, two *vits* one *hat*, 5-- *hats* one *kathi*, twenty *kathis* one *pand*, twenty *pands* one *bigha*, and five *bighas* one *rukka*, six *rukkas* one *khandi*, twenty-four *rukkas* one *chahur* [The area of the *chahur*, depended in many cases on the quality of the land.] or *takka*; and two *chahurs* or *takkas* one *pakka*. The survey measurements are a chain of thirty feet one *anna*, sixteen annas one *guntha*, and forty *gunthas* one acre of 4840 square yards. Thirty *gunthas* are equal to one *bigha* or $1\frac{1}{3}$ *bighas* are equal to one acre. [The *kathi* five cubits long by one cubit broad is said to have been carved in stone in the late Shanvar Vada at Poona. It was based on the length of the hand of Peshwa Madhavrav II. (1774-1796). After a time the length of the Peshwa's hand became exaggerated and the hand was taken to mean the length of a man's arm from the elbow, to the tip of the middle finger with an additional span. Hence arose some variations in the size of a *bigha*. Mr. J. Pollen, C. S.] *Partan* meaning two or four *bighas* is a word often used by Kunbis speaking among themselves. Twenty *partans* make one *aut*.

The old table for measuring time is sixty *vipals* or winks one *pal*, sixty *pals* one *ghadi* of twenty-four minutes, $2\frac{1}{4}$ *ghadis* one *hara*, $3\frac{3}{4}$ *ghadis* one *chaughadi*, $7\frac{1}{2}$ *ghadis* one *prahar*, eight *prahars* one *divas* or day, seven *divas* one *athavda* or week, two *athavdas* one *paksha* or fortnight, two *pakshas* one *mas* or month, twelve *mas* one *varsh* or year. In former times the Hindus had neither watches nor sun-dials. Their time measure was the water-clock a copper pot filled with water in which floated a brass cup with a small hole in the bottom which took an hour to fill and sink. The water-clock, though never referred to in ordinary life, is still used at marriage and thread ceremonies. Besides by the water-clock time was calculated by the length of shadows. To tell the time of day from a shadow one plan is, in an open sunlit spot, to measure in feet the length of one's shadow, to add six to the number of feet, and divide 121 by the sum. The quotient gives the time in *ghadis* of twenty-four minutes after sunrise if the sun has not crossed the meridian, and before sunset if the sun has crossed the meridian. Another plan is to hold upright a thin rod eighteen *anglis* or finger-breadths long, bend it so that its shadow will touch the other end of the rod on the ground and measure in *anglis* the perpendicular height of the rod. This like the other plan shows the number of *ghadis* either after sunrise or before sunset.

COMMUNICATIONS.

ROUTES.

B.C. 100.- A.D. 1818.

THE history of Cheul, Kalyan, Supara, and Thana in the Konkan, and of Junnar, Nasik, and Paithan in the Deccan shows that from early times several important trade routes passed through the Poona district. From at least as far back as the first century before Christ, Junnar, about a hundred miles west of Paithan sixty south of Nasik and fifty north of Poona, had two main routes to the coast through the Malsej and through the Nana passes. In the Nana pass, inscriptions, steps, rock-cut rest-houses, and cisterns show that as far back as the first century before Christ much was done to make the route easy and safe. The fine Buddhist caves at Bedsa, Bhaja, and Karla, the large but plain caves of doubtful date on Lohogad hill, the rock-hewn Shiv temple at Bhamburda and the small Ganeshkhind eaves of uncertain date near Poona, and the groups of Buddhist caves at Ambivli, Jambrug, and Kondane in Thana make it probable that the Bor pass was a highway of trade between B.C. 100 and A.D. 600. Of Poona trade routes and trade centres under the Hindu dynasties which flourished between A.D. 700 and A.D. 1300 few traces remain. Two great rock-hewn reservoirs on the top of Shivner show that the hill was held as a fort by the Devgiri Yadavs and make it probable that Junnar was a place of trade. Under the Bahmanis in the fourteenth and fifteenth centuries Junnar and Chakan were strong military posts and probably local trade centres. In 1499, after a brief stay at Junnar, Malik Ahmad, the founder of the Nizam Shahi dynasty, moved his capital from Junnar to Ahmadnagar. During the sixteenth century, when the wealth of the Bombay Deccan was divided between the rulers of Ahmadnagar and Bijapur, probably no main line of traffic passed through the Poona district. About 1636, when it was made part of Bijapur, Poona probably rose in importance as a centre of trade, and at the same time Junnar gained in consequence as the southmost post of Moghal power. Shivaji's disturbances soon followed, and little trade can have centred in Poona till 1750, when it became the capital of the Maratha empire. After the country passed to the British, traces of pavement, steps, and water-cisterns showed that the Peshwas had attempted to improve the Nana, Malsej, Bhimashankar, and Kusura passes. [Bom. Rev. Rec. 144 of 1819, 3317.]

1779-1826.

The first road made by the British was the POONA-PANVEL road, from Panvel in Thana through the Bor pass to Poona. In the close of 1779

the leaders of the unfortunate expedition that ended in the Vadgaon Convention spent four weeks (23rd November-25th December) in making a path fit for Artillery up the Bor pass. [Account of Bombay, 176-7.] In 1804, General Wellesley constructed a good military road from the head of the Bor pass to Poona. The massive stone ramps or pavings, which in 1864 were visible in places for the entire distance a little to the south of the line which is now the old post road, [Deccan Scenes (1864), 330.] and traces of which may still be seen at the eastern foot of the Isapur hills, belong to General Wellesley's road. After the fall of the Peshwas in 1817, owing to its importance in joining Bombay and Poona, one of the first cares of the Bombay Government was to improve the road from Poona to Panvel in Thana. In 1819 it was proposed that the Nana and Kusur passes should be repaired. [Mr. Marriott, 29th September 1819, Gov. Rev. Rec. 144 of 1819, 3317.] In 1825, though still steep, Bishop Heber considered that the Bor pass road was probably sufficient for the intercourse that either was or was likely to be between the Konkan and the Deccan. [Heber's Narrative, II. 200.] In 1826, according to Captain Clunes, the chief lines of communication in Poona lay through Poona and Junnar. [Itinerary, 18-46.] The BOMBAY-AHMADNAGAR road of 148 miles from Panvel through Chauk, Khalapur, and Khopivli in Thana ascended the Bor pass and entered Poona near Khandala, and stretching through Lonavla, Karla, Khadkala, Vadgaon, Kuvla, Tathavade Aund, Poona, [From the travellers' bungalow near the entrance of the cantonment to the church was 1½ miles and the continuation of the road to the ruins of Sindia's palace near which the cantonments ended was 1½ miles further. Clunes' Itinerary, 10.] Vagholi, Loni, Koregaon, Ganpati's Ranjangaon, and Kardalvadi, left it near Sirur and continued its course to Ahmadnagar through Hingni, Kadus, Ranjangaon, Sarole, Akulner, and Kedgaon. Besides the stone bridge over the Indrayani between Karla and Khadkala, which had seventeen arches and a total length of about 400 feet, there were on this road two flying bridges one across the Mula near Poona, the other across the Bhima near Koregaon. From this road a new excellent military road branched to the right near Vadgaon and passed by the villages of Shelarvadi, Kinai, Chinchuli, Nigri, Akurdi, Chinchvad, Bhosri, and Dapuri. This was the shortest road to Poona if the traveller had no wheel carriages. It continued from near Bhosri, passing Kalas, and crossing the Kirkee bridge, making a difference of about two miles between Bhosri and the Sangam. The KALYAN-AURANGABAD road of 185 miles, passing through Rahata, Murbad, Umbarpada, the Taloli pass, and Kumbalpada in Thana, and ascending the Malsej pass, entered the district near Karanjale, and stretching through Pimpalgaon and Junnar left it near Otur and continued its course through Brahmanvade, the Savarchur

pass, Sangamner, Rahata, Bamangaon, Bhorgaon, and Tisgaon. This road had two branches from Junnar, one of sixty-four miles through Ojhar, Pimpalvandi, and Belhe, leaving the district near Alkuti, and continuing its course through Parner, Supa, and Kedgaon to Ahmadnagar; the other branch forty-five miles through Narayangaon, Hivra, the Utti pass, Pargaon, and Annapur to Sirur. The POONA-SURAT road of 254 miles, through Chakan, Narayangaon, and Hivra, leaving the district near Otur continued its course through the Vashera pass, Devthan, the Sinnar pass, Nasik, Dindori, the Rahud pass, Umbarthana, the Nirpan pass, the Vagh pass, Gandevi, and Navsari. In the fair season this was a good cart road throughout except at the Vashera and Sinnar passes in Ahmadnagar and Nasik. The Rahud pass in Nasik offered no obstacles to carts. Another road of 290 miles, the usual line of march for troops from Poona to Surat, was through Ravet, Vadgaon, Karla, and Khandala on the district border, and Khopivli, Chauk, Panvel, Ambagaund, Kalyan, Titvala, Lap, Vajrabai, Arna, Butna, Daisar, Mahagaon, Tarapur, Saunta, Jahye-Burdi, Umbargaon, Daruti, Bagvada, Parnera, Rola, Gandevi, Navsari, Lanchpur, and Sachin. From Panvel in Thana there was another road to Surat by sea and land of about 256 miles. The POONA-KALYAN road of seventy-five miles through Ravet and Vadgaon, by the Kusur pass, continued its course through Neral, Badlapur, Beluli, and Kansa. The POONA-KHANDALA road of forty miles passed through Banera, Kasarsai, Dhaman Khind, and Lonavla. The POONA-JUNNAR road of fifty miles passed through Chakan, Peth, Narayangaon, and Khanapur. This road, though in places difficult for carts, was a fair road for pack-cattle. The POONA-DHULIA road of 201 miles through Chakan, Peth, Narayangaon, Pimpalvandi, and Ale left the district near Bota and continued its course through the Abora pass, Kikangaon, Korbala, Kopargaon, Yeola, Savargaon, Manmad, Malegaon, the Daragaon pass, Arvi, and Laling. The POONA-AURANGABAD road of 144 miles, through Loni, Koregaon, and Ganpati's Ranjangaon, left the district near Sirur and continued its course through Narayangaon, Supa, Ahmadnagar, Imampur, Kevra, Toke, Dahigaon, and Jalgaon. From Ahmadnagar another road went through the Nimba-Dhera pass, Vambori, and Kevra. From Aurangabad a branch led forty miles to Jalna, and a line of 105 miles went direct from Ahmadnagar through Paithan. The Poona-Sholapur road of 157 miles, through Hadapsar, Loni, Urali, Yevat, Patas, Chicholi, and Indapur, left the district near Tembhurni, and continued its course through Savaleshvar and Kundi. Another road of 157 miles to Sholapur, through Urali, the Diva pass, Belsar, and Jejuri, and leaving the district near Nimbat, continued its course through Baneya, Nataputa, Yallapur, Pandharpur, Dehgaon, Babhulgaon, and Singoli. From Patas a road of 136 miles branched

towards Mominabad or Ambejogai, passing through Pedgaon, Pimpalvadi, Khurda, Beh, and Savargaon. Near the Diva pass the road branched five or six miles to Sasvad, and, from Chincholi, a branch led to Sholapur through Tuljapur, making the whole distance from Poona 343 miles. From Sholapur the road was continued to Sikandarabad by Naldurg, a distance of 192 miles. The POONA-BELGAUM road of 241 miles, through Jejuri, left the district near Nimbat and continued its course through Rahimatpur, Pusesavli, Tasgaon, and Edur where was a flying bridge and boat across the Krishna, Ghotgiri, Marehal, Ashti, and Kanbargi. From Edur a road led to Dharwar through Padshapur, Nesargi, Shidapur, and Gadag. Another road of 213 miles through the Katraj pass continued its course through Kikvi, Shirval, Khandala, Surul, Bhuinj, Satara, Miraj, Karad, Islampur, Ichalkaranji, Sandalgi, Chikodi, Hukeri, and Yamkanmardi. From Karad a branch went to Malvan through Malkapur, the Anaskura pass, and Kharepatan, and another through Battis-shirala, Kolhapur, the Phonda pass, and Janavti. The POONA-DAPOLI road of ninety-seven miles went through Vadgaon, Khadakvasla, Khanapur, the Panba pass, and Torna-peth, left the district by the Dhoni pass and the Shevti pass, and continued its course through Mahad, Pali, and Mahlunga. A branch from Birvadi, seventeen miles from the Shevati pass, went to Ratnagiri through the Ghogra pass, Chiplun, and Makhjan. The POONA-GOREGAON road, sixty-six miles through Khadakvasla, Gorha, and the Kuran pass, continued its course through the Kumbha pass. Another road fifty-seven miles branched from Kuran and went by the Devi pass. The POONA-NIPANI road of 211 miles, through Loni, the Khor pass, Morgaon (Chinchvad), and Gulunche, left the district near the Nira and continued its course through Tamgaon, Rahimatpur, Hingangaon, and Edur-Manjri. The POONA-NAGOTHNA road of sixty-four miles through Chande-Nande and Akola, left the district by the Sai pass and continued its course through Vasunda, Jambulpada, Rahubgaon, and Chikni.

1826-1836.

Since 1826 all of these leading routes have been taken up and made into fair or good roads. In 1830 the Poona-Panvel road was greatly improved and was opened in state by Sir John Malcolm, the Governor of Bombay. At that time the mail cart to Poona on this road was the only mail cart in India. Some years passed before the road was generally used for carriages. In 1830 hardly a single cart was met between Khandala and Poona, and long droves of pack-bullocks had possession of the road. [Deccan Scenes, 33.] In spite of the improvements the Bor pass, though it did credit to the time in which it

was built, was far from easy of ascent. The gradients were steep and the curves sharp and numerous. In 1832 M. Jacquemout described the road as makadamised and kept by Pioneers in such order as would have been considered good in France. [Voyages, III. 583.] In 1836 the opening of roads and the improving of transit were among the points which received most attention from the early survey officers. [Among the improvements planned by the revenue survey officers the making of a new light cart was one of the greatest importance. In 1865, in a speech in one of the debates on the Survey Bill, Sir Bartle Frere, then Governor of Bombay, said that carts in 1836 were rarely seen beyond Poona. In five months he remembered seeing only three carts in the country between Poona and Sholapur, and these were brought from some Madras station. At that time the only local cart wheels were discs of stone, and carts were large lumbering contrivances which remained as heirlooms in families for generations. Lieutenant Gaisford applied himself to improve the country cart and the ordinary Deccan cart was the result of his labours. The new cart was to be as light and cheap as possible, and yet strong enough to be used in a Stony country where roads were almost unknown, and where workmen able to repair the most simple wheeled vehicle were often not to be found within fifty miles. He got up a factory for these carts at Tembhurni in Sholapur, and not only made carts but trained workmen from the villages round to repair them. At first it was difficult to find any one who would buy the carts even at cost price, but in time their number considerably increased. In Indapur alone they rose from 291 in 1836 to 1165 in 1856. The carts which replaced the old stonewheel carts and the Vanjari bullocks have in their turn helped to improve old roads and open new lines of communication. Bom. Gov. Sel. CLI. 33.34.] A marked change in the number of roads took place in some parts of the district during the thirty years of the first survey (1835-1866). [Lieutenants Wingate and Gaisford applied themselves to increase the facilities of transit in the Deccan. At first they had very small means at their disposal. Government gave small sums often as low as Rs. 5 a mile for the improvement of roads. Little could be done for such an amount beyond removing the most serious impediments to wheeled traffic along existing tracks. Sir Bartle Frere, Gov. Sel. CLI. 33.]

1836-1850.

In 1836 when the survey was introduced there was not a mile of road in Indapur. The construction of the Imperial line of road from Poona to Sholapur passing by the town of Indapur was the first great improvement. By 1850, five lines of made road passed through the district. The chief roads were the old Poona-Panvel road through the

Bor pass about seventy miles, the Poona-Ahmadnagar road also about seventy miles, the Poona-Junnar road about fifty miles, the Poona-Indapur road ninety miles, and the Poona-Satara road seventy-six miles. The POONA-PANVEL road, the chief road-work of the Bombay Government, was well metalled throughout. It had many long and some fairly steep slopes down which the superfluous surface water would have rushed with destructive violence but for a simple contrivance which broke its force and made it comparatively harmless. At about one hundred feet apart ridges of earth, three to four inches high and about a foot wide, were drawn slanting across the road. The ridges were formed by loosening the stones and earth with a pickaxe. Their object was, before it gained force or volume, to turn the surface water into one of the side ditches. This the ridges did very effectually when they were properly watched, so as to repair the breaches made in them by cart wheels. When they were kept in order no more water could rush down any portion of the slope than fell between two of the little ridges. When little rain fell, the spaces between the ridges were kept comparatively dry and firm, for the small quantity of water which was then to be disposed of soaked quietly into the ditch, along the loose stones and earth of which the ridges were made. Towards the close of the rainy season the ridges were allowed to be worn by the traffic to the level of the road. In this way the road escaped the perils of the rainy season with comparatively little damage. [Mackay's Western India, 379. Mr. Mackay adds: For about half its course the road runs through one of the wettest districts of Western India. The quantity of rain which falls during the south-west monsoon between Panvel and the Sahyadris, and, for about twelve miles to the east of Khandala at the top of the Bor pass, is about 50 per cent more than the average fall at Bombay.] Within Poona limits the road was well bridged. The great obstacle to traffic was the Bor pass, where the ascent from the low land to the high land, was a rise of 2000 feet by a zigzag and frequently precipitous course of about four miles. This was one of two points at which the Sahyadris could be ascended or descended by wheeled vehicles with anything like safety along a course of about 500 miles. Still so difficult of ascent or descent was the Bor pass that no one thought of driving up or down it in a carriage. Passengers travelling by the public conveyances were carried up and down in palanquins, there being different sets of coaches for the high and low portions of the road. Private carriages were pulled up or let down by numerous bodies of workmen, or they were carried up and down swung from a number of poles which rested on men's shoulders. Empty carriages had been pulled up by horses, but this was generally considered a good day's work for the animals. A man who had any regard for his horse would not even ride him up or down the pass,

prefer-ring to have him led, and betaking himself either to a pony or a palanquin. In the Konkan the road crossed a rich rice country; but its chief traffic came from above the Sahyadris. It was principally owing to the traffic of districts beyond Poona turning to this route, because there was no other means of easy communication with the coast. The country from the Sahyadris to Poona was generally of a poor, thin, light soil, which of itself could sustain no great traffic. The POONA-AHMADNAGAR road started almost at right angles to the Poona-Panvel road from which it differed simply in not being metal-led. It was bridged and fairly ditched, the surface being covered not with broken stone but in some places with loose round stones or coarse gravel, and in others with small fragments of hardened clay. Occasionally the gravel and clay were combined and there the road was generally in the best condition. During the dry season it was practicable enough and could be driven over without difficulty; during the rains it was indifferent throughout and at many points bad. It was designed as a military road as Ahmadnagar was the head-quarters of the Bombay artillery. Like the Poona-Panvel road it had proved of advantage to the general traffic. Although it crossed a comparatively poor country it was the chief feeder of the Poona road. With its continuation through the Nizam's territory to Aurangabad, it drew to Poona much of the traffic of Berar out of what would have been its natural course had communications been open between that important valley and the coast. To gain this circuitous line of made road, much of that traffic turned south to Ajanta from which it could reach Bombay only by the made road, which it sought by traversing nearly three-quarters of the circumference of an enormous circle. The next of the made roads was the POONA-JUNNAR road. It was designed either to proceed by the Ale pass across several streams and several spurs of the Sahyadris, to Sinnar and Nasik, with the view of uniting Poona with Malegaon the great military station in the north Deccan; or to take the more direct route from the Ale pass to Malegaon, avoiding Nasik and flanking the spurs of the hills. The POONA-INDAPUR road led south-east from Poona to Indapur about half-way to Sholapur. Of all the roads that converged on Poona this Indapur road was most in the direct line of the Poona-Panvel metalled road, so that traffic directed by it upon the Poona-Panvel road with a view to reaching Bombay could scarcely be said, so far at least as the district between Poona and Indapur was concerned, to have been taken out of its course, as it must have been from other districts by any of the roads leading through Poona. The road was by no means as perfect a road as that leading to Ahmadnagar. Even the Poona end of it, after a little rain, was little more than passable for a carriage. It crossed a very practicable line of country, as nearly its whole course to Indapur lay along the right bank

of the Bhima. If the traffic was not at first great it was because the country was poor. At Indapur the road crossed the Bhima and proceeded through a richer country almost in a straight line to Sholapur. The POONA-SATARA road was the best specimen of a made road in the Deccan. It was not bridged throughout, the only completed bridges had been built by native chiefs. The road surmounted two passes, one of them, the Babdev pass about eight miles south of Poona, being one of the worst specimens of a pass in Western India. Its angles and gradients were frightful, its sharp turns being in some places flanked by low walls which afforded but a slight bulwark against the precipices which they crowned. The road in the steepest parts was constantly rough, being covered to some depth with loose round stones. This to some extent served to check the impetus of a descending load, but greatly increased the toil of dragging a load up. Beyond the crest of the pass the road entered a broad plain bounded on the south by the Salpa range and watered by many streams. The first stream was at the village of Hivra past which it brawled over a somewhat wide and rocky channel; it was unbridged. The next was beyond Sasvad, a narrower but deeper stream with a fierce current during the rains; it was also unbridged. There was no other stream of consequence until the Nira was reached, one of the largest tributaries of the Bhima. The Nira bridge was a well-known point on the road. The bridge which was a long wooden one, resting on stone piers springing to some height from the rocky channel of the river, had been built by the Peshwas. There were several bridges within Satara limits. Besides these main routes, as in the rest of the country, were several fair-weather roads practicable for carts, frequented tracks, and postal tracks. The fair-weather roads were natural tracks, merely showing the course taken by an irregular traffic over the open surface of the country. The best of them were practicable during the fair weather for carts, simply because at that time carts could pass over much of the surface of the country. The frequented tracks were numerous in every thickly peopled part of the country and were a grade lower than the fair-weather cart-tracks. The lines laid down as post tracks were no better, the mail being generally carried by foot-runners. All these roads were useful as showing the natural lines of traffic. Of the roads the Poona-Panvel and the Poona-Ahmadnagar roads were alone thoroughly bridged and available for traffic throughout the year. On the other roads, during the greater part of the rainy season, traffic was stopped by the streams which crossed them. The suddenness with which the streams stopped traffic was sometimes startling. A stream which at a place less than a quarter of a mile distant, was known to be practicable, by the time required to reach its banks, became a foaming

and impassable torrent and remained impassable for days. To such interruptions even most of the made roads were liable.

1863-1884.

Since 1863 when local funds were created the work of opening roads has been steadily pressed on and the district is now well provided with lines of communication. At present (1884) in the Poona and Kirkee cantonments and in the civil limits of the two stations, forty-two miles of Imperial roads and twenty-eight miles of provincial roads, all metalled and bridged, are kept in repair at a yearly cost of £1700 (Rs. 17,000) to Imperial and £1700 (Rs. 17,000) to provincial funds. Of district roads there are seventy miles bridged and metalled, 104 miles partly bridged and metalled, and 493 miles partly bridged and *murumed*. The old POONA-PANVEL road, entering the district at Khandala and passing south-east by Lonavla, Talegaon, Kirkee, Poona, Patas, and Indapur, is a well made road metalled as far as Patas and then *murumed*. The crossing of the Bhima at Hingangaon, where a ferry-boat is worked during the south-west rains, and the crossing of the Dalaj are serious obstacles to traffic during the rains. This road was of immense advantage to the district till the opening of the railway in 1862. It brought Poona, which is the great grain market of this part of the Deccan, within easy reach of grain and brought most villages in the neighbourhood of Poona in direct communication with Indapur which is midway between Poona and Sholapur. Dealers exporting produce to Poona and Sholapur naturally tried the half-way market of Indapur. Many cartloads of merchandise intended for Poona or Sholapur were often disposed of in transit at Indapur and the return carts were laden with produce which would command a better price in the respective markets. The opening of the railway in 1862 drove the cartmen from this road and considerably affected the importance of the Indapur market. Though the number of carts making use of the road has diminished those that have been driven off the line are probably such as came from long distances and the local traffic by the road is still considerable. The road is still of local importance in supplying the Indapur market with the produce of the sub-division. The POONA-AURANGABAD road is metalled forty-one miles as far as Sirur and, except at Koregaon on the Bhima and two or three unimportant streams, is bridged and drained throughout. The old POONA-SATARA road, thirty-nine miles as far as the Nira, through the Diva pass, Sasvad, and Jejuri, is a fair road partly bridged and drained. It is at present kept as a local fund road. The new POONA-SATARA road of thirty miles passing through the Katraj pass and Shirval, is a first class metalled and bridged road kept in good order.

The POONA-NASIK road sixty-two miles through Khed, Manchar, Narayangaon, and Ambeghargaon, is a *murumed* unbridged road. As the principal rivers are unbridged flying bridges are worked in the monsoon at Moshi on the Indrayani, at Khed on the Bhima, at Kalamb on the Ghod and at Pimpalvandi on the Kukdi, and at Ambeghargaon on the Alula; an ordinary ferry-boat plies at Vaki on the Bhama. A branch from this road goes from Narayangaon to Junnar. The local fund roads besides the already mentioned old Satara road are, the SIRUR-SATARA road fifty-four miles as far as the Nira bridge passing through the railway station of Kedgaon and crossing the Bhima at Pargaon by a flying bridge. The twenty-eight miles of this road from Sirur to Kedgaon are kept as a mail pony cart road. The POONA-SINHGAD road extends over twelve miles; the POONA-ALANDI road of thirteen miles runs parallel and close to the Nasik road; the SASVAD-INDAPUR road of fifty-four miles east and west passes through Baramati, Lasurna, and Nimbgaon; the VADGAON-SHIKRAPUR road of thirty-three miles through Chakan joins the Bombay-Ahmadnagar road at Shikrapur; the KHED-BHIMASHANKAR road thirty-one miles joins the Nasik road at Khed; the KHED-SIRUR road through Pabal extends over thirty-two miles; the POONA-PAUD road extends over twenty-one miles; and the DIKSAL-BARAMATI road over seventeen miles. All these local fund roads are *murumed* and are more or less bridged, crossing some of the rivers by flying bridges. During the rains when the ground is wet many of the roads are difficult for wheels. Yearly repairs are made and improvements are being gradually introduced.

PASSES.

[Mr. John McLeod Campbell, C.S.] As in the rest of the Deccan the local hill passes or *ghats* belong to two leading systems, those that cross the Sahyadris and those that cross the spurs that stretch east and south-east from the Sahyadris. Down the Malsej pass about sixty-six miles north of Poona, a line for a cart road has been surveyed, and it is expected that in a few years the road will be begun. At present the only road down the Poona Sahyadris fit for wheels is the Bor pass. Except this and the Malsej and Nana passes the rest of the openings in the Poona Sahyadris are foot-paths and have no considerable traffic. [These foot-paths are very intricate. It is with the greatest difficulty that people travel along them when loaded with the produce of their fields for the local markets. Where the rock is very steep they use a simple bamboo ladder with the help of which they can travel by the most direct routes. The ladder consists of a substantial bamboo shorn of its branches with a small stump at each joint or division to be used as a step. Captain A. Mackintosh (1839) in Trans. Bom, Geog. Soc. I,

290.291.] The Malsej and Nana passes have considerable Vanjari traffic carried on pack-bullocks. Of the Sahyadri passes, beginning from the north, the first is NISNI or the Ladder, a steep and difficult route from Talemachi in Junnar to Divapanda in the Murbad sub-division of Thana; it is impassable for cattle and is little used by foot travellers. MALSEJ at the head of the Madner valley, 2062 feet above the level of the sea, is the straight route between Ahmadnagar and Kalyan. It descends about five miles from Khubi in Junnar to Thidbi in Murbad. In 1826 it was passable by camels and elephants, but was steep and in some places narrow with a precipice on one side. [*Clams' Itinerary*, 16.] The descent, in which there is an excavation containing carved images of the Hindu gods Ganesh and Hanuman and a cistern of fine water, is paved with large stones. In 1850, when the engineers of the Peninsula Railway came to India, the Malsej pass first engaged their attention. On examination the route presented such formidable difficulties that it had to be abandoned, and with it the general system of line of which it was a feature. In 1882 in connection with the proposal to open a cart road down the pass, toll-bars were established for six months to ascertain the traffic. The returns showed a considerable Vanjari bullock traffic outwards in wheat, Indian millet, *tur*, gram, myrobalans, butter, oil, raw sugar, chillies, betel leaves, coriander seed, pulse, turmeric, plantains, cattle including sheep, and country blankets; and inwards in rice, salt, *nagli*, *vari*, cocoanuts, dates, sesamum, metal, cloth, bangles, betel, fish, rags, paper, and timber. The export and import trade is with Junnar and other large villages in the Junnar sub-division. Besides the goods traffic there is a large passenger traffic chiefly husbandmen from Junnar and the neighbouring parts of the district on their way to and from the great labour market of Bombay. Six miles south-west of the Malsej pass at the head of the Kukdi valley are two passes NANGAR-DARA and BHORANDICHA-DARA or RITHYACHA-DARA from Anjanvel in Junnar to Bhorande in Murbad. These are steep and difficult, and are used only by Kolis. About a mile further south at the head of the same valley, is the NANA pass six miles in descent from Ghatgar to Vaisagre and Dhasai in Murbad. Next to the Bor pass this is the most used route between the Deccan and the Konkan within Poona limits. [Near the Nana pass the Poona boundary runs far into the Konkan. The story is that in a dispute between the neighbouring Thana and Poona villages the Mhar of the Poona village pointed out from the top of the Sahyadris a line a long way west of the base of the cliff. The Thana-villagers jeered at him telling him to go over the precipice and show the line. The Poona Mhar tied winnowing fans under his arms and to his legs, and throwing himself over the cliff floated down unhurt. On reaching the ground he began to run west to what he called the Poona

boundary. The Konkan villagers seeing their lands passing away mobbed him to death, and fixed the boundary where his body lay. Mr. W. B. Mulock, C.S., Collector of Thana (1882).] At the top the road runs through a narrow gorge between two steep rocks, the rock on the north being known as Nana's Angtha or thumb. The entrance to the pass is by a staircase cut deep through the rock and descending fifty to a hundred feet from the level of the plateau to a narrow terrace. Flanking the artificial staircase, in the precipitous rock which falls from the Deccan level to the terrace, are rock-cut caves which apparently were originally made, and which still serve, as travellers' rest-houses. The walls of the chief cave are covered with a famous inscription of the third Andhrabhritya king Vedishri Shatakarni, whose probable date is B.C. 90. From the terrace a stair, partly built partly rock-hewn, descends through heavily wooded slopes into the Konkan. The lower portion is easy and runs along rounded hills. At several places in the pass are rock-hewn cisterns with excellent water whose Pali inscriptions show that they were cut about a hundred years before Christ. In 1675 the English physician Fryer, who had been asked to Junnar by the Moghal governor, returned by the Nana pass and found it shorter and easier than the Avapa track up which he had been taken by mistake. At the top he was kept waiting by 300 oxen laden with salt, then so precious that the saying was whose salt we eat, not whose bread we eat. After standing for an hour he persuaded the bullock-men to stop and let him pass. Once past the salt bullocks, the road was feasible, supplied at distances with charitable cisterns of good water, and towards the bottom adorned with beautiful woods. [Fryer's East India and Persia, 128-129,] In 1826 the pass was frequented by Vanjaris in the dry season, but in the rains the steps into which the rock had been cut were in places dangerous for cattle. Though this route saved a considerable distance in going from Ahmadnagar to Kalyan, people with baggage and followers preferred to go round by the Bor pass. [Clunes' Itinerary, 145.] At present (1884) the pass is much used in the fair weather by market gardeners and oilmen from Junnar. These men loading their bullocks with packs of chillies, onions, and garlic, march from Junnar to Ghatgar at the top of the pass. Here they stop a night and next day their own pack-bullocks go down the pass unloaded and the packs are carried down the pass by special pass buffaloes belonging to the Ghatgar villagers. The buffaloes are paid 4½d. (3 as.) a trip. Besides this there is a considerable Vanjari traffic in grain from Junnar to Murbad and Kalyan. Still the pass can never be more than a foot and cattle path. About ten miles south-west at the head of the Mina valley is AMBULI a small rugged pass leading from Ambuli to Palu, not a trade route. This though only a footpath is much used as it is the most direct route from

Junnar to Kalyan. KUTE-DARA and TIRGUN-DARA, footpaths leading from Hatvij in Junnar to Sonavle in Murbad are used only by Kolis, and are so steep that in places steps are cut in the rock. GOVELI, also a footpath, leads from Khed to Ubrole in Murbad. It is steep and little used. AVAPE, a descent of four miles from Avape in Khed to Khopivli in Murbad, is passable only for men, but is used to carry headloads of clarified butter into the Deccan and myrobalans from the Deccan coastwards. In 1675 the English physician Fryer on his way to Junnar being misguided had to climb the Sahyadris apparently by this path. The ascent was very difficult. There was no path and the breathless bearers threaded their way amid hanging trees, the roots of which were laid bare by the falling earth. To look down made the brain turn, and over-head pendulous rocks threatened to entomb the traveller. Intense labour drew tears of anguish from the servants' eyes and with much difficulty they carried their load to the top by a narrow cavern cut through rock. [Fryer's East India and Persia, 128-129.] Fryer returned by the Nana pass. SHIDGAD descending from Kondanvalin Khed to Narivli, is impassable for cattle, but is much used by foot-passengers. Three paths, GHAR, UMBRA, and GUNAR lead from the Shidgad fort. About one mile west of the temple of Bhimashankar are two passes one to the village of Balhiner called RANSHIL and the other to the village of Khandas called BHIMA-SHANKAR. In 1826 the Bhimashankar paths had much traffic in spices, oil, and raw-sugar from the Deccan to Panvel and a return of salt from Panvel to the Deccan. Along much of their length old curbing and in many places old paving remain. The paths are now out of repair and are used only by a few laden bullocks, horses, and travellers who are carried in litters from Khandas. Two other footpaths close to the Bhimashankar pass are called HATKARVAT and SAKHARTAKI. AMBANALI two miles south of Bhimashankar is not passable for cattle. VAJANTRA a mile further is passable for unloaded cattle; NISNI, which is difficult even for men, is the continuation of VAJANTRA. At the head of the Bhima valley is KOLAMB also called BHATI, two miles south of Kotelgad, now out of repair and fit only for foot passengers and unladen cattle. It had formerly much traffic in rice and salt from Kalyan. Close to Kolamb is a steep footpath by which a detachment of the 4th Regiment climbed to Englad in February 1818 and surprised a party of Kolis. [Clunes' Itinerary, 146.] About five miles south-west, at the head of the A'ndhra valley, three passes PHENADEVI, ADKI, and SAVLE lead from Savle the first to Malegaon and the last two to Pimpalpada. Savle pass, which is paved but is in bad repair, was formerly used for dragging wood. In 1826 the yearly value of the timber dragged up this pass was estimated at £5000 (Rs. 50,000). [Cluncks' Itinerary, 146.] Four miles further south, and also at the head of the Andhra valley, is KUSUR

2149 feet above the sea, a winding path leading 2½ miles from the village of Kusurgaon to Bhivpuri, and in good repair. The descent is at first easy passing under fine shady trees. After some distance it is a steep zigzag down the hill-side. Most of it is roughly paved with large stones which are said to have been laid by one of the Peshwas. At Bhivpuri there is a fine stone reservoir built at a cost of £7500 (Rs. 75,000) by Parvatibai widow of Sadashiv Chimnaji of the Peshwa's family. The road is passable for mounted horsemen or laden bullocks, but not for carts. It is a great line of traffic from Talegaon to Karjat, Neral, Kalyan, and Panvel. The yearly toll revenue of about £20 (Rs. 200) is spent on repairing the pass. GALDEVICHA RASTA leading from Jambavli to Dak in Karjat and VALVANDI DARCHA MAL leading from Valvandi to Khadvai are used by foot-passengers and unloaded animals. Nine miles south west of Kusur, winding close under the slopes of Rajmachi, is the footpath of RAJMACHI known in Thana as the Konkan Darvaja or Konkan Gate, leading about five miles to the village of Kharvandi on the Ulhas river in Karjat. It was formerly passable by laden cattle, but is now out of repair and is used only by foot travellers. HINDOL and MIRRA, both of them footpaths, lead from Nandgaon and Kune in Maval to Kondane in Karjat. Eight miles south of Konkan Darvaja, at the top of the Indrayani valley about 2000 feet above the level of the sea is the BOR pass, a winding made road from Lonavla eight miles to Khopivli. At the close of 1779 the leaders of the unfortunate expedition which ended in the Vadgaon Convention spent four weeks (23rd November-23rd December) in making a path fit for artillery up the Bor pass. The track was improved in 1804 by General Wellesley. From its importance in joining Bombay and Poona the improvement of the Bor pass road was one of the first cares of the Bombay Government after the fall of the Peshwa. In 1825, according to Bishop Heber who passed through it, the road through the Bor pass though broad and good was so steep that a loaded carriage or palanquin could with difficulty be taken up. Every one either walked or rode and all merchandise was conveyed on bullocks or horses. To have carried a road over these hills at all was, Bishop Heber thought, highly creditable to the Bombay Government, and the road as it stood was probably sufficient for the intercourse that either was or was likely to be between the Deccan and Konkan. [Heber's Travels, 200.] A few years later the pass road was greatly improved, and in 1830 it was opened in state by Sir John Malcolm, the Governor of Bombay. In 1840 the pass road was metalled throughout and completed with bridges and drains so as to be passable for carts during the rains. In this year the traffic yielded a toll revenue of £2774 (Rs. 27,740). [Mackay's Western India, 379.] In spite of the improvement in 1850 it was so difficult of ascent and descent that no one ever thought of driving up

or down in a carriage. Passengers travelling by the public conveyances were carried up and down in palanquins, there being different sets of coaches for the high and low portions of the road. Private carriages were pulled up or let down by numerous bodies of workmen or else they were carried up and down swung from a number of poles resting on men's shoulders.[Trade Reports, 1840-41, 380-81.] At present (1884) it is a first class metalled and curbed road twenty-two feet wide with masonry bridges, culverts, drains, dry stone retaining walls, and an easy gradient. It has considerable cart traffic from Poona to Panvel and Pen. Wheat, raw sugar, oil, clarified butter, millet, and cotton pass westwards, and salt passes inland. In 1881 the Bor pass toll yielded £790 (Rs. 7900). In 1860 the Peninsula Railway line to Poona was taken across the Sahyadris at the Bor pass. [Details of the Bor pass railway are given below pp. 159-161.] South of Khandala NAGPHANI or Cobra's Hood leading from Kurvanda in Maval to Chavri in Karjat is used by foot passengers and unloaded animals. Two miles south, at the head of the Indrayani river, KORONDI passable for laden cattle, also leads west to Chavri in Pen. Further south are KEVNI five miles between Yekoli and Pachapur, DEKYA four miles between Ghulka and Nenavli, AVLI five miles between Pimpri and Alvane used by foot passengers carrying no loads, and PIMPRI six miles between Pimpri and Patnus used by pack-bullocks carrying myrobalans salt and coals. Further south in the Mulshi petty division are NISNI AMBONE four miles from Maluste to Mangaon; AMBAVNE or KALAMBYA five miles from Ambavne to Kalamb; VARASDAR four miles from Saltar to Kondgaon; TELBEJA SAVASNI four miles from Telbela to Dhondse; NIVE or SAVATYA four miles from Nive to Patnus; TAMNI or SATHPAYRI three miles from Tamni to Vile, all used by foot passengers who often carry head-loads of myrobalans, butter, coals, salt, and rice; GADLOT on the direct road from Poona to Nagothna leading into the Pant Sachiv's state of Bhor; LENDH or LINO, NISNI, and TAMHANA, in the extreme south and fit only for men, lead into Kolaba. South of these connecting the Bhor state and Kolaba are several passes DEV, KUMBHE, THIBTHABE, KAVLYA, SHEVTYA, MADHYA, AMBOVAL, GOPYA, VARANDHA, and SHEVTA, all of which are useful for Poona traffic.

Of the passes over the spurs that run east from the Sahyadris the chief are in the Sinhgad-Bholeswar range. Four cart roads cross the Sinhgad-Bholeswar range at the Katraj, Babdev, Diva, and Bor passes. The KATRAJ pass is on the new Satara road, a fine piece of modern engineering, crossing the crest of the range in a tunnel. The BABDEV, about ten miles from Sasvad and between Bhivari and Kondhve Budruk, is on the old Satara road through Haveli and

Purandhar. In 1803 Holkar brought his plundering bands up this pass. It was put in order about the year 1824, and for years afterwards was in a prosperous condition. Until 1853 it was used for wheeled carriages, but since the opening of the Diva and Bor passes in the same range of hills, it has been abandoned. In 1853, it was one of the worst specimens of a pass in Western India. Its angles and gradients were frightful to contemplate, its sharp turns being in some places flanked by low walls which afforded but a slight bulwark against the precipices which they crowned. The road in the steepest parts was constantly rough, being covered with loose round stones. This to some extent served to check the impetus of a descending load but greatly increased the toil of drawing a load up. At present it is impracticable for laden carts and is used by pack-bullocks and foot passengers carrying headloads of mangoes, figs, and vegetables to Poona from Supa and the neighbouring villages. The outward traffic is estimated to be worth about £200 (Rs. 2000) a year. The DIVA pass, between Diva and Vadki, seven miles further east and six miles north of Sasvad was made in 1853 at a cost of £8500 (Rs. 85,000) from Imperial funds to supersede the Babdev pass. The pass is kept in good order by yearly repairs, and wheeled carriages can easily go over it. Considerable traffic, consisting of grain of every sort, fruit, especially mangoes and figs, vegetables, raw sugar, firewood, butter, oil, cloth and other articles of foreign manufacture, metal work, timber, sugar, and spices, passes by this route. The inward traffic is worth about £20,000 (Rs. 2,00,000) and the outward about £10,000 (Rs. 1,00,000). The BOB or SINDAVNE pass, nine miles further east, near the end of the spur, between Vaghapur and Sindavne, is the oldest route across the Sinhgad-Bholeshvar range. It was crossed by the Duke of Wellington in his famous forced march in 1803, [The Duke's famous march of sixty miles in thirty-two hours was from Baramati to Poona on the 19th and 20th of April 1803, Grant Duff's Marathas. 568.] and by Peshwa Bajirav when he fled from Poona in 1817 Though superseded by the Babdev pass for traffic with Poona, the road is still kept in repair as it is a line of communication between the Urali railway station and Sasvad, Jejuri, and other places on the old Satara road. It was made in 1862 at a cost of about £100 (Rs. 1000) from local funds. At present the road is in good order and fit for wheeled carriages. The pass is chiefly used by pilgrims from the Urali railway station to Jejuri. The traffic chiefly in corn and other articles of daily use is worth about £2500 (Rs. 25,000) a year.

BRIDGES.

Besides four large bridges and one dam or *dharan* and several minor bridges in the town and cantonment of Poona and Kirkee, the district has forty-two bridges of not less than fifty feet long. Of the Poona and Kirkee bridges, the WELLESLEY Bridge called after the Marquis of Wellesley over the Mutha river at the Sangam, 498- feet long, of stone and lime masonry throughout, with eight $52\frac{1}{2}$ feet span segmental arches and cut-stone parapet walls, including a roadway $28\frac{1}{2}$ feet wide and forty-five feet above the foundation or river-bed, was built in 1874 at a cost of £11,093 6s. (Rs. 1,10,933). The original bridge which was entirely of wood was built in 1828 and was removed in 1839. A stone bridge was then built which continued in use till it was removed in 1874. The new bridge keeps the name of the former bridge, the people changing the word Wellesley into Vasli. Not far from this bridge to the west is the railway bridge over the Mutha. The LAKDIPUL on the Mutha river at the north-west end of the city was built in 1847, at a cost of £2697 10s. (Rs. 26,975). Though of stone it is called the *Lakdi Pul* or Wooden Bridge, because it is on the site of a wooden bridge which was built by one of the Peshwas and gave way in the floods of 1840. The present bridge is 523 feet long, with nine forty-eight feet span segmental arches of stone and lime and parapets of coursed stone and lime masonry including a roadway $18\frac{1}{4}$ feet wide and $34\frac{1}{2}$ feet above the foundation or river-bed. The FITZGERALD Bridge over the Mula-Mutha river below the Bund Gardens, 1002 feet long, of stone and lime masonry throughout, with thirteen sixty feet span semi-elliptical arches and stone parapet walls, including a roadway $28\frac{1}{2}$ feet wide and $47\frac{1}{4}$ feet above the foundation or river-bed, was built in 1869, at a cost of £24,153 2s. (Rs. 2,41,531). HOLKAR'S Bridge over the Mula river at Kirkee, 548 feet long, is built of stone and lime masonry throughout, with nineteen seventeen-feet segmental arches, and a parapet of cut teak wood railing, including a roadway fifteen feet wide and twenty-eight feet above the foundation or river-bed. The KUMBHAR VES or Potters' Gate *dharan* or causeway is the oldest crossing over the Mutha river near Kasba Peth to the north of Poona. The old causeway gave way in the beginning of British rule, and the present causeway was built between 1835 and 1840 at a cost of about £3000 (Rs. 30,000), paid partly by Government and partly by the people. It is built of solid stone masonry, and is 235 yards long and seven yards broad. It has twelve nine-feet wide sluices. During the monsoon floods it is under water and impassable. The other bridges in the town of Poona are: the HALALKHOR or Sweepers' bridge over the Manik Nala sixty-eight yards long, a massive structure of cut-stone masonry with three five-feet broad vents or waterways leading to the Halalkhor quarters in Mangalvar Peth; it was built between 1835 and 1840. The JAKAT or Toll Bridge, connecting the Mangalvar and

Shanvar Peths, with three twelve-foot vents, was built between 1836 and 1840. Here the tolls were levied in the Peshwa's' time.

GOSAVIPURA Bridge on the Manik stream was built in 1870 at a cost of £300 (Rs. 3000). It is a double bridge at a point where the main road branches. The arches are single of twenty-two feet span. The DARUVALA or Fireworkers' Bridge on the Nagzari stream, joining the Ravivar with the Nyahal, Rastia, and Somvar Peths, was built in 1870 at a cost of £1500 (Rs. 15,000). It is fifty-eight yards long and has four twelve-foot side vents. The BHATTI or Brick-Kiln Gate Bridge on the Manik stream joining Rastia's Peth with the Civil Lines was built in 1845. It is a small culvert of two seven-foot vents. The Parsi bridge or causeway on the Nagjhari stream joining Ganesh Peth with Rastia's Peth was built in 1830 by a Poona Parsi. It has three five-foot wide vents, and is occasionally under water during the rains when it becomes impassable. The GANESH Peth Bridge, joining the Ganesh and NANA'S Peths, was built in 1835. It is a cut-stone bridge with three sixteen-foot arches. The BURUD or Basket-makers' Bridge near the Buruds' quarters, joining the Ravivar and Bhavani Peths, was built between 1840 and 1845 of solid cut-stone masonry. It has four nine-foot arches. The GHASHETI Bridge, joining Ganj and Vetar Peth with Bhavani Peth, was built in 1845 at a cost of £180 (Rs. 1800). It is of solid cut-stone masonry and has three eighteen-foot arches.

Of the forty-two other bridges in the district, twenty-three are on the Poona-Sholapur road, six on the Poona-Ahmadnagar road, three on the Poona-Nasik road, six on the Poona-Panvel road, and four on the Poona-Satara road. The bridges on the Poona-Sholapur road were built about the year 1836-37. Most are of coursed, one is of uncoursed, and four are of partly coursed rubble masonry. They are fifty to 175 feet long, with one to five ten to fifty feet segmental arches and eighteen to twenty feet wide roadway from nine to twenty-one feet above the foundation or river-bed. The bridges on the new Satara road which were built in 1856 are ninety to 162 feet long, of coursed rubble with three or four twenty to forty feet span segmental arches and twenty-four feet wide roadway from twelve to twenty-one feet above the foundation or river-bed. Of the three bridges on the Poona-Nasik road, which were built between 1854 and 1856, two are sixty-five feet, and one over the Mina at Narayangaon is 320 feet long of stone and mortar masonry. They have from one to nine, fifteen to fifty feet span segmental arches, and a roadway twenty to twenty-five feet broad and 10½ to twenty-five feet above the foundation or river-bed. The six bridges on the Poona-Ahmadnagar road, with the exception of the Ghod bridge, were built in 1842-43. Four are fifty-five to sixty-three feet long, one on the Vel river is fifty-two feet long, and one on the

Ghod, which was built in 1868, is 800 feet long. They are built of stone and mortar masonry with two to sixteen eight to fifty feet span segmental or semicircular arches and a roadway sixteen to twenty feet wide and $7\frac{3}{4}$ to $37\frac{1}{2}$ feet above the foundation or river-bed. The Vel bridge cost £2205 (Rs. 22,050) and the Ghod bridge £10,359 16s. (Rs. 1,03,598). Of the six bridges on the Poona-Panvel road, the Indrayani bridge which is built of stone and lime masonry, has seventeen twenty-feet span two-centre arches and a roadway fourteen feet wide and fourteen feet above the foundation or river-bed. The Dapuri bridge; which was built in 1842 at a cost of £6858 (Rs. 68,580), is 994 feet long, partly wooden and partly of stone and lime masonry, with thirteen thirty-five feet span arches and a roadway twenty feet wide and twenty-six feet above the foundation or river-bed. The other bridges are fifty-seven to eighty-four feet long, of stone, or stone and brick and lime masonry, with two to five ten to twenty-two feet span segmental arches and a roadway $17\frac{1}{2}$ feet wide and nine to $13\frac{1}{2}$ feet above the foundation or river-bed.

FERRIES.

Of thirteen public ferries, one is a second class, one is a third class, and eleven fourth class ferries. [There are four classes of public ferries: I. those that do not make more than six trips in a day of fourteen hours; II. those that do not make more than ten trips; III. those that do not make more than fifteen trips; IV. and those that make more than fifteen trips.] Two, one across the Ghod at Kalamb and the other across the Kukdi at Pimpalvandi on the Poona-Nasik road, are in Junnar; two, one across the Bhima at Khed and the other across the Bhima at Vaki on the Poona-Nasik road, are in Khed; one, across the Indrayani at Induri on the Talegaon Station road, is in Maval; one, across the Bhima at Koregaon on the Poona-Ahmadnagar road, is in Sirur; two, one across the Indrayani at Moshi on the Poona-Nasik road, and the other across the Mutha lake at Sangrun are in Haveli; one across the Nira at Pimpri Khurd on the Poona-Satara road is in Purandhar; two across the Bhima, one a third class ferry at Khanote and the other at Pargaon on the Sirur-Satara road are in Bhimthadi; and the remaining two, also across the Bhima, one a second class ferry at Hingangaon on the Poona-Sholapur road and the other at Chandgaon on the road to the Pomalvadi railway station, are in Indapur. Except the Sangrun and Induri ferries, which were established in 1877-78, at a cost of £116 (Rs. 1160) and £356 (Rs. 3560), all these ferries were established before 1875. The two ferries at Sangrun in Haveli and Chandgaon in Indapur work throughout the year, as the water there is always unfordable; the rest work during the

rainy season only. In 1881-82, the thirteen public ferries yielded a revenue of about £388 (Rs. 3880) against £437 (Rs. 4370) in 1874-75. During the current year (1884-85) they have been farmed for £555 (Rs. 5550). Rules framed under the Ferry Act (II. of 1878) fix the fares for passengers, animals, carriages, and cradles. [The sanctioned charges are: Passengers exclusive of children in arms $\frac{3}{4}d.$ ($\frac{1}{2} a.$) in second and $\frac{3}{8}d.$ ($\frac{1}{4} a.$) in third and fourth class ferries; four-wheeled carriages, 1s. (8 as.) in second, and 9d. (6 as.) in third and fourth class ferries; two-wheeled carriages, 9d. (6 as.) in second, 6d. (4 as.) in third, and $4\frac{1}{2}d.$ (3 as.) in fourth class ferries; laden ponies, horned cattle, and mules, 3d. (2 as.) in second, and $1\frac{1}{2}d.$ (1 a.) in third and fourth class ferries; unladen ponies, horned cattle, and mules, and asses, $1\frac{1}{2}d.$ in second and 3d. (2 as.) in third and fourth class ferries; sheep and goats, $4\frac{1}{2}d.$ (3 as.) in second and $1\frac{1}{2}d.$ (1 a.) in third and fourth class ferries; palanquin with bearers 1s. (8 as.) in second and third and 6d. (4 as.) in fourth class ferries; and litters or *palnas* with bearers, 6d. (4 as.) in second and third and 3d. (2 as.) in fourth class ferries.] Besides these there is one ferry at Netva in Junnar across the Pushpavati. It is maintained by local funds and passengers are carried free of charge. There are several private ferries, which, except the ferry across the Mula-Mutha below the Sangam bridge near Poona, work during the rains only. The ferry boats are generally built in Bombay or in Thana, but some have been made by men brought from Bombay in the public works workshops in Poona. They are built on the lines of ordinary boats, of wood brought from Kalikat, and at a cost varying from £100 (Rs. 1000) for a small boat to carry about fifty passengers to £330 (Rs. 3300) for a large ferry boat to carry horses and cattle as well as passengers. The most successful form of ferry boat is two boats, each twenty-two feet to thirty-seven feet long by $5\frac{1}{2}$ to ten feet broad joined together by a top frame. The boat-men are Kolis by caste. Ferry boats are in many cases worked by flying bridges. A wire rope is hung from bank to bank above water level with a pulley working on it to which the boat is attached, and, being kept at an angle to the run of the stream, goes across by the pressure of the stream water against the boat, the pulley sliding along the iron rope and so bringing the boat straight across the river.

REST-HOUSES.

Besides five European travellers' bungalows, ten district revenue officers' bungalows, and nine public works bungalows, there are 156 rest-houses or *dharmshalas*, for the use of native travellers, and five for the use of troops. Of the five European travellers' bungalows, four, at Lonikand, Kondhapuri, Sirur or, Ghodnadi, and Dhond, are on the

Poona-Ahmadnagar road, and one at Khandala is on the Poona-Panvel road. Of the ten district; revenue officers' bungalows, one is at Otur in Junnar, one all Chakan in Khed, one at Sasvad in Purandhar, one at Loni Kalbhat in Haveli, three at Ravangaon Supa and Yevat in Bhimthadi, and three at Indapur Kumbhargaoon and Loni in Indapur. Of the nine public works bungalows, two at Karla and Vadgaon are on the; Poona-Bombay road; one near the Nira bridge is on the old Poona- Satara road; one at Pargaon on the Sirur-Nira bridge road; one at Baramati on the Indapur-Nimbat road; one at Vir on the Nira-canal head-works road; one at Narayangaon on the Poona-Nasik road; and two at Patas and Bhigvan on the Poona-Sholapur road., Of the 156 rest-houses or *dharmshalas* for the use of native passengers, all of which are not situated on high roads nine are in Junnar, four at Khubi, Dingora, Rajuri, and; Belhe on the Malsej-Ana pass road, and three at Kalamb,, Narayangaon, and Junnar on the Poona-Nasik road; thirty are in Khed, none on any highroad; eleven are in Maval, five at Talegaon, Vadgaon, Khadkala, Valavhan, and Khandala on the Poona-Bombay road; eighteen are in Sirur, four at Koregaon Shikrapur; Kondhapuri, and Ganpati's Ranjangaon on the Poona-Ahmadnagar road; twenty-six are in Haveli, two at Vagholi and Lonikhand on the Poona-Ahmadnagar road, one at Shivapur on the new Poona-Satara road, one at Bhosri on the Poona-Nasik road, one at Dapuri on the Poona-Panvel road, and one at Urali Kanchan on the Poona-Sholapur road; seventeen are in Purandhar, two at Sasvad and; Jejuri on the old and one at Kikvi on the new Poona-Satara road . thirty-two are in Bhimthadi, five of them at Yevat, Kedgaon, Patas, Dhond, and Ravangaon on the Poona-Sholapur road; and thirteen are in Indapur, five of them at Bhigvan, Daij, Loni, and Indapur, on the Poona-Sholapur road, and three at Nimbgaon-Ketki, Lasurna, and Sansar, on the Indapur-Baramati road. There are also 354 village offices or *chavdis* which are used by native travellers as rest-houses in villages which have no other resting places. Of the five rest-houses for the use of troops, two, at Vadgaon and Khandala, are on the Poona-Bombay road, one at Lonikand is on the Poona-Nasik road, and two at Kondhapuri and Sirur (Ghodnadi) are on the Poona-Ahmadnagar road.

TOLLS.

The district roads have nineteen toll-bars, thirteen of them on provincial roads and six on local fund roads. Of the thirteen provincial toll-bars, six at Khadkala with a sub-toll at Takvi, Dapuri, Hadapsar, Yevat, Kumbhargaoon, and Indapur, are on the Poona-Sholapur road; two, at Katraj and Kikvi, are on the new Satara road; two, at Lonikand with a sub-toll at Vagholi and Ranjangaon, are on the Poona-Sirur

road; and three, at Kurali, Peth, and Narayangaon, are on the Poona-Nasik road. Of the six local fund toll-bars one is at the Nira Bridge on the old Satara road, one at Hingne-Khurd on the Poona-Sinhgad road, one at Bhugaon on the Poona-Paud road, one at Shetphal-gadhe on the Baramati-Khanoti road, one at Khalumba on the Vadgaon-Shikrapur road, and one at Aund with a sub-toll at Banera on the Aund-Shelarvadi road. All the toll-bars, both on provincial and local fund roads, are sold every year by auction to contractors. In 1881-85 the auction bids amounted to £7430 (Rs. 74,300) for tolls on provincial roads and £2344 (Rs.23,440) for tolls on local fund roads, or £9774 (Rs. 97,740) in all.

RAILWAY.

During the last quarter of a century communications have been greatly improved not only by making roads, but also by opening the Great Indian Peninsula Railway which for 106 miles passes through the district from west to east. It enters the district at Khandala near the crest of the Sahyadris which is about 2000 feet above the level of the sea. For about twenty miles the line runs through a rough and hilly country. It next passes through the fertile plain lying between the Indrayani and Pauna rivers twenty-one miles south-east to Poona. From Poona its course is east along the valleys of the Mula-Mutha and Bhima, forty-eight miles to Dhond, and then south-east, seventeen miles to Diksal, where it enters Sholapur. It has eighteen stations: Khandala seventy-seven miles from Bombay, Lonavla 79½ miles, Karla 84½ miles, Khadkala 89½ miles, Vadgaon ninety-six miles, Talegaon-Dabhade ninety-eight miles, Shelarvadi 104 miles, Chinchvad 109 miles, Kirkee 115¼ miles, Poona 119 miles, Loni 129½ miles, Urali 137 miles, Yevat 145 miles, Kedgaon 152½ miles, Patas 159 miles, Dhond 165½ miles, Boribyal 172¼ miles, and Diksal 183¼ miles. The line was begun in 1850 and the section from Khandala to Poona was opened for traffic on the 14th of June 1858 and from Poona to Diksal on the 15th December of the same year. From Dhond, which is on the Poona frontier, runs the Dhond and Manmad State Railway, the chord line which joins the north-east and south-east sections of the Great Indian Peninsula Railway. This line from Dhond to Ahmadnagar was opened on the 16th March 1878. Dhond is the only station on the line within Poona limits. Throughout the district the Peninsula railway line was easily made. Khandala, which is provided with a safety siding, is the fourth and Lonavla is the fifth station on the Bor pass incline. [The Bor incline begins at Karjat station near the village of Palasdhari, sixty-two miles from Bombay and 206 feet above mean sea level. As the crest of the ascent is 2027 feet, the height of the incline is 1831 feet

and the distance fifteen miles, or an average gradient of one in forty-six. At Thakurvada the first station, about six miles from the bottom, safety sidings are provided, into which any train can be turned and stopped. The next station is at the Battery hill and the third is at the reversing station at the eleventh mile, where, by means of a siding, the train leant the station in the opposite direction to which it entered. This change is very ad-vantageous at this particular point. It allows the line to be laid in the best direction as regards gradients and works, and raises its level at the steepest part of the precipice. The fourth station is at Khandala at the thirteenth mile, where also a safety siding is provided, and the fifth is at Lonavla on the crest. Khandala and Lonavla an within Poona limits. On leaving Palasdhari or Karjat the line keeps to the western flank of the great Songiri spur. In the first four miles are very heavy works, which a second survey showed to be necessary to reduce the gradients that were first laid out. Some heavy embankments bring the line through the first mile. It then keeps round the Songiri hill, passing on its course through six tunnels of 66,132, 121, 29, 136, and 143 yards. Then bending north with very heavy works the line climbs round the Mahukimalli and Khami hills to the station at Thakurvada, $6\frac{1}{4}$ miles. In the last two miles there are eight tunnels of 286, 291, 282, 49, 140, 50, 437, and 105 yards and five viaducts which though not very long are very lofty All except the last are of masonry, with fifty-feet arches, one viaduct having eight, one six, and two four openings. The fifth viaduct, originally of eight fifty-feet arches, was replaced by two Warren girders of 202 feet span. The least height of pier is seventy-seven feet, two are ninety-eight, one 129, and one 143. Leaving this section of tunnels, for two miles beyond the Khami hill, the line runs along a natural terrace or case in the rock without any obstacle, as far as Gambhirnath where the terrace is cut by two sheer rocky ravines. Crossing these ravines by two small viaducts, one with six forty-feet and the other with four thirty-feet arches, with piers forty-eight and eighty-eight feet high, the line keeps along the same cess for two miles to the bold outstanding rock called Nathacha Dongar. In the last two miles are heavy works, nine tunnels of 81, 198, 55, 63, 126, 79, 71, 280 and 121 yards. Beyond this the railway enters on the long and fairly level neck that forms the link between the Songiri spur and the main range of the Sahyadris. At the end of this neck, $11\frac{1}{2}$ miles from the foot is the reversing station, which was considered the best arrangement for surmounting the last great difficulty on the incline, the ascent of the scarp of the Sahyadri face. By means of the reversing station the line is taken up the remaining five miles by gradients of one in thirty-seven, one in forty, and one in fifty, with two tunnels of 346 and of sixty-two yards, and with a viaduct of one sixty-feet and eleven forty-

feet arches. The line leaves the reversing station by a curve of fifteen chains on a gradient of one in seventy-five, pierces Elphinstone Point by a long tunnel of 346 yards, keeps along the edge of the great Khandala ravine, reaches the hollow where is Khandala station, and then, following the course of the Khandala ravine, crests the Sahyadris at the village of Lonavla. Besides the leading viaducts the incline has twenty-two bridges of seven to thirty-feet span and eighty-one culverts two to six feet wide. The total cutting, chiefly through rock, is two millions of cubic yards and the greatest depth is, on the central line, seventy-six feet, and, on the faces of the tunnel through Elphinstone Point, 150 feet. The cubic contents of the embankments are $2\frac{1}{2}$ millions of yards, the greatest height of bank on the central line being seventy-five feet, though many of the outer slopes are 150 and some of them are as much as 300 feet. There are in all twenty-six tunnels, of a total length of 3986 yards or more than $2\frac{1}{4}$ miles, six of them being more or less lined with masonry for a total length of 312 yards. There are eight viaducts. The length of the incline is fifteen miles and sixty-eight chains, of which five miles and thirty-four chains are straight and ten miles and thirty-four chains curved. The sharpest curves are one of fifteen chains radius for a length of twenty-two chains, and another of twenty chains radius for twenty-eight chains. Between a radius of twenty and of thirty chains there are curves of a total length of one mile and forty-eight chains, and the rest have a radius of between thirty-three and eighty chains. The steepest gradients are one in thirty-seven for one mile and thirty-eight chains, and one in forty for eight miles and four chains the remainder being between one in forty-two and one in seventy-five. The only exceptions are one in 330 for twenty-three chains and a level of one mile and fifteen chains. The line is doable throughout. It cost £68,750 (Rs. 6,87,000) a mile or about £1,100,000 (Rs. 1,10,00,000) in all. The tunnels were the most difficult part of the work. Nearly all were of very hard trap. The steep forms of the hills prevented shafts being sunk, and, as the drifts had to be made solely from the ends, much skill and care were required in setting out the work on the sharply-curved inclines, so as to ensure perfectly true junctions. The viaducts are partly of block in coarse masonry, as abundance of admirable building stone was everywhere at hand. But the masonry work was not good, and there have been some failures, chiefly the Mahukimalli viaduct which had to be rebuilt. Another cause of danger and trouble is the slipping of rain-loosened boulders. To ensure its safety all boulders had to be moved from the hill sides above the line. The land slips were particularly troublesome in the lower part of the incline. Shortly after the first engine passed, on the 30th March 1862, the whole of one of

the open cuttings, near the foot of the incline, was filled and had to be pierced by a tunnel of arched masonry.

The incline took seven years and a quarter to complete. It was carried out entirely by contract. The contract was first let to Mr. Faviell in the autumn of 1855, and the works were begun on the 24th January 1856. In June 1858, two miles of the upper part of the incline, from Khandala to Lonavla were opened for traffic. In March 1859, Mr. Faviell gave up his contract; and, for a short time, the Company's engineers carried on the works. In the same year the contract was relet to Mr. Tredwell. But he died within fifteen days of landing in India, and the work was completed by Messrs. Adamson and Clowser, managers for the contractor Mrs. Tredwell. These gentlemen carried on the work with the greatest zeal and ability. Their good and liberal management collected and kept on the work a force of 25,000 men during two seasons, and in 1861 of more than 42,000 men.

The rails used on the incline weigh eighty-five pounds to the yard, and were made with special care so as to secure hardness and flexibility. Under the fish-joints a Cast-iron chair, spiked to longitudinal timber bearers, is fixed so as to support the bottom of the rail and to give additional strength and security to the joint. The incline is worked by pairs of double-tank engines of great strength and power, Thana Statistical Account, Bombay Gazetteer, XIII 326-9,]

Besides ordinary buildings costing £250 to £1500 (Rs. 2500 - 15,000) with quarters for a station-master and a booking office and waiting rooms, at Khandala, Khadkala, Talegaon, Kirkee, Poona, Urali, Kedgaon, Patas, and Dhond, and refreshment-rooms at Poona and Dhond a large station has been built at Lonavla at a cost of £30,000 (Rs. 3,00,000) with large waiting and refreshment rooms. Workshops have also been constructed at Lonavla as well as a church, a school, a library, and quarters for the engine drivers and other servants of the company. As the water of the Indrayani which runs outside the Lonavla station-yard, was insufficient during the hot weather, a reservoir was built at a considerable cost at Bhushi about two miles to the south of Lonavla from which an abundant supply of fresh water is now available. The water is carried by cast-iron pipes to Lonavla, Khandala, and to the reversing station. The company has lately agreed to supply the village of Lonavla with water, the cost of the connection being borne by Municipal and Local Funds.

Since it was opened large quantities of goods have been drawn to the railway. Much traffic which used to go down the rough tracks of the

Sahyadris from Junnar and Khed now finds its way by the Nasik highroad to the Talegaon railway station. Much of the export trade which used to go to Bombay along the old Satara, Sholapur, and Ahmadnagar roads through Poona is now attracted to the nearest, railway station. At the same time the ordinary roads are by no means abandoned. Baramati and Indapur, the large markets in the east of the district, though only seventeen and twelve miles from the railway, have a direct road trade with Bombay and keep up the relatively high position they enjoyed before the railway. The railway has increased competition by throwing open the local trade as it were to the whole of India and has almost defeated combinations to keep up the price of grain or other articles of general local use. The merchants complain that though trade has greatly increased, profits have greatly fallen.

The making of the Western Deccan section of the Southern Maratha railway was sanctioned in December 1883, and the work was begun in March 1884. Of the whole length of 242 miles, 45½ miles lie within Poona limits. The line starts from Poona, 119¾ miles from Bombay, and for about ten miles runs almost parallel to the Peninsula railway at a distance of about three miles to the south. Near Loni, ten miles east of Poona, the line turns more to the south and skirts the Sinhgad-Bholeshwar range, rising with a ruling gradient of one in a hundred till it crests the Bhore Incline about twenty-one miles south-east of and about 675 feet above the Poona railway station. From the top of the pass the line turns south, and, leaving Saswad about eight miles to the west, passes almost straight south. Jejuri thirty-two miles south-east of Poona. At Jejuri it crosses the Purandhar hills, and runs generally southwards till near Nimbhar 45½ miles from Poona, it crosses the Nira river about three miles west of the Poona-Talegaon road and enters Satara. The country over which the line passes is a series of parallel hills, running east and west, and divided by more or less wide valleys which slope from west to east. This section of the line will be difficult and costly. The great length of hill line involves heavy gradients, many curves and tunnels, and much bridging and walling. Not counting the terminus at Poona there will be four third class stations. Phursungi ten miles from Poona, Vaghpur twenty-four miles, Jejuri 32 miles, and Vala forty-one miles. The ruling gradient will be one in a hundred throughout and the sharpest curve will be above 500 feet radius. As good stone is plentiful, all the bridges are intended to be arched. The important bridges will be the Karha bridge, twenty-nine miles from Poona, with five fifty-foot arches and an estimated cost of £7300 (Rs. 73,000), and the Nira bridge, 46½ miles from Poona, with eight fifty-foot arches, at an estimated cost of £8700 (Rs. 87,000). There will be two tunnels in the Bhore Incline, one 500 feet long estimated to cost

£11,400 (Rs. 1,14,000) and the other 600 feet long estimated to cost £13,700 (Rs. 1,37,000). There will be about 63,832 cubic feet of retaining wall on the Bhore pass, costing about £2820 (Rs. 28,200). The permanent way will cost about £1890 (Rs. 18,900) a mile. The estimated cost of the whole Western Deccan section is £8300 (Rs. 83,000) a mile.

POST OFFICES.

The district of Poona forms a part of the Poona postal division. Besides the chief receiving and disbursing office at Poona, the district contains thirty sub-offices, two of them in Poona, and twenty-four village post offices. The chief disbursing office at Poona is in charge of a postmaster, who draws a yearly salary of £300 (Rs. 3000) rising to £360 (Rs. 3600). The two Poona sub-offices, one in the city and another in the New Bazar, and the twenty-eight sub-offices, at Dhond, Baramati, Chakan, Chinchwad, Diksal, Ghoda, Indapur, Jejuri, Junnar, Kedgaon, Khadkala, Khandala, Khed, Kirkee, Lonavala, Mahalunga, Manchar, Narayangaon, Patas, Purandhar, Sasvad, Sirur, Supa, Talegaon-Dabhade, Talegaon-Damdhara, Otur, Vadgaon, and Kirkee Bazar, are in charge of sub-postmasters drawing yearly salaries varying from £18 (Rs. 180) to £72 (Rs. 720). The twenty-four village post offices, at Ale, Alandi, Alegaon, Avsari, Avsari Budruk, Belhe, Chas, Davdi, Kadus, Kalamb, Kikvi, Malthan, Morgaon, Narsingpur, Nimbgaon, Pabal, Parincha, Paud, Peth, Pimpalvandi, Rajuri, Vada, Valha, and Vaphgaon are in charge of village schoolmasters who receive yearly allowances varying from £3 (Rs. 30) to £6 (Rs. 60). There are fifty-six postmen for delivery of correspondence. Of these, one receives £18 (Rs. 180) a year, eleven receive £14 8s. (Rs. 144) a year, and the remainder £9 12s. (Rs. 96) a year. Gratuities to runners for delivering letters at some of the villages vary from £1 4s. to £2 8s. (Rs. 12-24) a year. Seventy-one village postmen deliver letters at small villages. Of these twenty-four, receiving yearly salaries of £10 16s. (Rs. 108) each and thirteen of £12 (Rs. 120), are paid from Imperial, and eighteen receiving yearly salaries of £12 (Rs. 120) and sixteen of £10 16s. (Rs. 108) are paid from provincial funds. At the village post offices only money-orders are issued and at the other post offices both money order and savings' bank business is carried on. Mails for the district of Poona to and from Bombay are carried by the Peninsula railway. A ponycart post runs between Sirur and Kedgaon and another from Poona to Satara, Kolhapur, and Belgaum. The disbursing post office and the town sub-offices are directly subordinate to the disbursing postmaster of Poona. The sub-office at Dhond and the village post office at Narsingpur are under the supervision of the superintendent of

post offices Ahmadnagar division, and the village post office at Kikvi is under the superintendent of the Deccan division. The remaining offices are supervised by the superintendent of post offices Poona division whose head-quarters are at Poona, and who is paid a yearly salary of £480 (Rs. 4800) rising to £600 (Rs. 6000) in five years. He is helped in the Poona district by an inspector whose head-quarters are at Poona and whose yearly salary is £120 (Rs. 1200) paid from provincial funds.

Besides the Peninsula railway telegraph offices there is one Government telegraph office at Poona.

section ii.-TRADE

CHANGES.

Of late years, except the development caused by cheap and rapid Carriage, there has been no marked change in trade. Among the people there is a growing fondness for foreign articles of dress and comfort. Husbandmen also show more intelligence in meeting the demand for particular produce. Of late years the great increase in the demand for oilseeds and raw sugar has led to a large increase in their production and export. This increase has been made possible by the opening of canals and other water-works. The oilseeds go chiefly to Bombay and the raw sugar to Bombay and Gujarat.

TRADE COURSE

Traffic passes from and to the Sirur sub-division by the Poona-Ahmadnagar road to Poona or to Kedgaon and so by rail to Bombay; it passes from and to the Indapur sub-division by the Poona-Sholapur road to Poona or by rail from Chandgaon or Diksal to Bombay, it passes from and to the Bhimthadi sub-division by the Baramati-Nira bridge on the Jejuri road to Poona. by the Sholapur road to Poona, or by rail to Bombay from Dhond or Patas; it passes from and to the Purandhar sub-division by the old Satara road to Poona and thence by rail to Bombay, or by the new Satara road to Poona and thence by rail to Bombay; it passes from and to the Haveli sub-division by the Poona-Sholapur road, by the Poona-Ahmadnagar road, by the new Satara road to Poona by the Poona-Panvel road and by the Paud road to Poona, and thence by rail to Bombay: it passes from and to the Maval sub-division by rail at Talegaon, Lonavla, or Khandala to Bombay; it passes from and to the Khed and Junnar sub-divisions by the Poona-Nasik road to Poona or by the branch from the Nasik road to Talegaon and thence by rail to Bombay.

TRADE CENTRES.

The chief agencies for spreading imports and gathering exports are trade centres, markets, fairs, village shops, and peddler's packs. The chief trade centres are: Junnar, Narayangaon, and Ale in Junnar; Khed, Manchar, Ghoda, Ambegaon, Avsari, Vaphgaon, Pimpalgaon, and Mahalunga in Khed; Sirur and Talegaon-Dhamdhere in Sirur; Khandala and Talegaon-Dabhade in Maval; Poona, Charholi-Budruk, Phulgaon, Paud, Vagholi, and Loni Kalbhar in Havel; Sasvad and Jejuri in Purandhar; Supa, Baramati, and Patas in Bhimthadi; and Indapur. Of those Khandala, Talegaon-Dabhade, Poona, Loni Kalbhar, and Patas are on the Peninsula railway.

The leading merchants are Marwar Vanis, Gujarat Vanis, Bohoras, Parsis, and Brahmans, with capitals of £100 to £15,000 (Rs. 1000-1,50,000). Except Junnar, Ambegaon, Talegaon-Dabhade, Poona, Charholi-Budruk, Sasvad, Baramati, and Indapur, which trade direct with Bombay and other large markets, the trade; of the other centres is mostly local, not passing to places outside of the district. The merchants that deal direct with Bombay and other large markets are generally Marwar Vanis and Bohoras. They export grain and other produce, principally garden crops, and import hard-ware country and European piece-goods, haberdashery, stationery, dried fish, salt, rice, and cocoanuts. The same merchants deal both in imports and exports. Though every branch of trade is open to all classes, Bohoras have practically a monopoly of the hardware trade, and most of the larger grain-dealers are either Marwar or Gujarat Vanis. In the different local trade centres, though they do business only on a small scale, the traders are independent. Regular trading is not generally carried on through agents but large traders occasionally make use of the services of agents when they are unable themselves to make purchases either in the villages or in Poona and Bombay. Field produce passes through several hands before it leaves the district. It goes to market generally through the village shopkeeper, who passes it on to a dealer in some large town, who sends it direct to Bombay or to some export merchant in Poona. Some rich landholders, but these are exceptions, themselves bring their produce to the large markets of Poona and Junnar. Tirgul Brahmans and Malis, who generally grow betel leaves vegetables and fruit, send the produce of their gardens to Poona or to Bombay. The village shopkeeper generally gathers articles of export in exchange for money advanced or lent. Like exports, imported articles pass through several hands, the wholesale merchant in Bombay, the importer in Poona or other local centre, the dealer who buys from the importer, and the petty retailer who buys from the dealer and sells at his village

shop or at some fair or market. In Poona itself imported articles sometimes pass through two hands only, the wholesale merchant in Bombay and the importer if he is also a retail merchant. The consumer, rarely buys from the importer. Occasionally another middleman the wandering peddler, comes between the consumer and the importer.

The brokers are mostly Lingayats but a few are Gujarat and Marwar Vanis, Marathas, Kachhis, and Muhammadans. Their number is small, perhaps about a hundred. They are usually paid three per cent. ($\frac{1}{2}a.$) in bill transactions and $1\frac{1}{2}d.$ to $3d.$ ($1-2 as.$) on the *palla* of 120 *shers* in corn transactions. In cloth purchases their brokerage is as much as two per cent, and in dealings in gold and silver ornaments it is a quarter per cent. As a rule brokers carry on no other business, but there is no rule or custom to prevent their engaging in other business, nor are their transactions limited to any one branch of trade.

MARKET TOWNS.

Next to the chief trade centres in the spreading and gathering of goods come the market towns, where a market is held on a fixed day in the week. Of forty-four villages where weekly markets are held, six, Ale, Anne, Junnar, Madh, Narayangaon, and Otur, are in Junnar; nine, Ahire, Ambegaon, Chakan, Ghode, Khed, Mahalunge, Manchar, Vade, and Vaphgaon, are in Khed; ten, Ambegaon, Chandkhed, Karla, Nana, Nilshi, Shivane, Takvi-Bndrukh, Tale-gaon-Dabhade, Umbre, and Vadgaon, are in Maval; five, Bhamburda, Bhorkas, Ghotavde, Mulshi, and Paud are in Haveli; six, Ghodnadi, Kavthe, Kendur, Malthan, Pabal, and Talegaon-Dhamdhere are in Sirur; four, Kikvi, Parinche, Sasvad, and Valhe are in Purandhar; five, Baramati and Dhond, and Patas, Karkamb and Yevat on the Poona-Sholapur road, are in Bhimthadi; and four, Bhigvan, Indapur, Nimbgaon-Ketki, and Palasdev are in Indapur. Of these the most important are Baramati, Bhamburde, Dhond, Ghodnadi, Ghotavde, Junnar, Manchar, Sasvad, and Talegaon-Dhamdhere, with an attendance of 150 to 700 sellers and 500 to 2500 buyers. In the rest the attendance varies from twenty-five to 150 sellers and from forty to 200 buyers. All these markets are distributing centres, and about one-sixth, Baramati, Ghodnadi, Indapur, Junnar, Khed, Sasvad, and Talegaon-Dhamdhere are also gathering centres. The chief articles brought for sale are grain of all sorts, cloth, vegetable and fruit, groceries, spices, and other articles of daily use. Besides these articles, shoes, ropes, brooms, baskets, and blankets are offered for sale at Baramati and Sasvad, and cotton at Indapur. The sellers are Vanis, Malis, Momins, Kachhis, Tambats, Tambolis,

confectioners, Mangs, Kolis, and others, some of them producers and others either dealers or dealers' agents, belonging to the market town or to some neighbouring village. The buyers are people of all castes in the market town and in the neighbouring villages. There is no barter except that small landholders and others, including Mhars, Mangs, Chambhars, Ramoshis, Kolis, and Musalmans, who have no money, receive oil, tobacco, vegetables, chillies, and fish in exchange for grain. Cattle markets are held at Ghodnadi, Manchar, Indapur, Baramati, and Junnar once a week, and at Bhamburde near Poona a half-weekly cattle market is held on Wednesdays and Sundays. Horses, ponies, cows, buffaloes, sheep, and goats are brought for sale by Kunbis and others. The chief buyers are Kunbi and other landholders, and butchers at the Bhamburde market.

FAIRS.

Of sixty-five yearly fairs, seven, at Ale, Otur, Nimdari, Ojhar, and Narayangaon, Belhe and Hivre, are held in Junnar; eight, at Nimbgaon-Ketki (twice), Kharpadi, Kelgaon, Chakan, Kadadhe, Dhamne, and Bhovargiri (Bhimashankar) in Khed; two at Vehergaon and Vadgaon in Maval; eighteen at Bhamburde (twice), Pashan, Parvati (twice), Higne Khurd, Kondhanpur, Vadi, Bolhai, Dehu, Chinchvad, Ravet, Paud, Ghotavde, Shera, Tamanhi-Budruk, Vadgaon, Aksai, and Niva in Haveli; eleven, at Shirasgaon, Vadgaon, Mandavgan, Ranjangaon, Malthan, Mukhai, Pimple, Jambut, Kavthe, Talegaon-Dhamdhere, and Kanhur in Sirur; ten, at Sasvad (twice), Jejuri (four times), Pur, Vir, Malshiras, and Diva in Purandhar; eight, at Valki, Pargaon, Nangaon, Varvand, Supa, Dhond, and Morgaon (twice) in Bhimthadi; and one at Narsingpur in Indapur. All of these, except those at Belhe and Hivre in Junnar which are chiefly attended by Musalmans, are Hindu fairs held in honour of some local deity. The attendance varies from 200 to 25,000. Large dealers do not attend and there is not much trade, the estimated value of articles sold generally varying from £1 to £40 (Rs. 10-400). At Dhond, Morgaon, Jejuri, Vir, Malshiras, Nimbgaon-Ketki, Bhovargiri, Vehargaon, Kondhanpur, Vadgaon, and Aksai, the transactions amount to not less than £100 (Rs. 1000), and sometimes to as much as £2500 (Rs. 25,000). The usual salesmen are sweetmeat-makers, gardeners, and grain-parchers, but coppersmiths, weavers, tailors, grocers, tassel-makers, and betel-leaf growers generally attend some of the larger fairs with stocks of metal vessels, cloth, bangles, blankets, groceries, oil, and clarified butter and spices. The buyers are consumers, villagers from the neighbourhood, and pilgrims. Occasionally Mhars,

Kolis, and some Kunbis exchange grain and fuel for oil, salt, and chillies. Otherwise there is no barter.

VILLAGE SHOPKEPPERS.

Except small groups of huts in the hills every village has its shopkeeper. The village shopkeeper is usually a Gujarat or a Marwar Vani, but sometimes a Lingayat Vani, a Teli, and occasionally a Kunbi or Musalman. Except grain which he buys from local owners, the village shopkeeper draws his stock in trade from the large towns with which he has business relations, and where probably the moneylender, on whom he is often dependent, lives. His stock in trade generally includes grain, groceries, raw and refined sugar, salt, oil, and; clarified butter *tup*, spices, cocoanuts, and all other articles required for daily use by the people. Though every shopkeeper does not keep a store of cloth, it is not necessary to go to the sub-divisional centre to buy cloth. In each sub-division ten or twelve villages have; cloth shops. Except in the western hills cloth can be bought in one village out of every ten. Cloth can also be bought at all weekly markets. Besides robes or *lugdis*, waistcloths or *dhotars*, and strong *dongri* cloth woven in the district at Baramati, Junnar, Sasvad, Kavthe, and Indapur, the cloth-merchants have stocks of Bombay and European cloth which they generally buy in Bombay. Cloth is bought by people of all castes from the village in which the shop is as well as from villages near which have no shop. Shop-keepers sometimes exchange their wares for grain to Kunbis and other poor people who have no ready money. The village shop-keepers have usually moneylending dealings with people of all castes, except Brahmans, in the village as well as in the neighbour hood. They have no connection with large trading firms. They themselves or sometimes their agents or relations go to fairs and market towns.

PEDDLERS.

Below the village shopkeepers come the travelling peddlers, who are generally Gujarat Marwar or Lingayat Vanis, Shimpis, Malis, Bagvans, Kasars, Sonars, Sangars, Tambolis, Telis, Atars, Bairagis, and Komtis. They have their head-quarters at Poona or some other large town where they buy or prepare the contents of their packs They carry their goods on horse or bullock back and sometimes on their own shoulders. They go from village to village and visit the market towns and fairs within their circuit, and are known to their customers. Vanis take groceries and spices; Shimpis cloth and ready made clothes; Malis fruit and vegetables; Bagvans groceries, spices, and vegetables; Kasars,

Bairagis, and Komtis metal vessels and dishes, and the other Kasars bangles; Sonars cheap ornaments; Sangars blankets; Tambolis betel leaves and nuts; and Telis oil. Cloth is also hawked about by Musalman peddlers who of late have been hawking perfumes and pearls. All these except the last sell their goods on credit or for cash to Kunbis, Musalmans, Mhars, Mings, and others. The sale of perfumes and pearls is restricted to the higher classes and to cash payments only. Malis, Bagvans, and sometimes Vanis barter their goods with Kunbis and others for grain. Bairagis and Komtis sometimes exchange their goods for old clothes, lace borders of turbans, and other clothes. Except Malis and Bagvans, who travel throughout the year, the peddlers set out on their tour at the end of September or the beginning of October, and return before the rains.

IMPORTS.

Decrease in cost both of making and of carrying, and a larger margin of earnings among the bulk of the lower classes, have of late years led to a great increase in the amount of imports. The importers are chiefly Gujarat and Marwar Vanis. The chief imports are, grain including rice, *bajri*, *jvari*, wheat, pulses including gram *tur hulga math udid* and *mug*, oilseeds including earthnuts and *khurasni*, cotton seeds, *moha* *Bassia latifolia* flowers, salt, fish, metals, raw and refined sugar, tobacco, timber, hardware, indigo, twist, piece-goods and silk, matches, kerosine oil, haberdashery, porcelain, and European liquor. Rice, which is used in small quantities only by the upper classes of Hindus, is brought from Ahmadnagar and Thana. *Bajri* is brought from Ahmadnagar and Sholapur, and *jvari*, *hulga*, *math*, *udid*, *mug*, *tur*, and gram are brought from Sholapur. Wheat, especially the excellent *bakshi* or garden wheat, comes from the Nizam's country, Sholapur, Khandesh, and Gujarat. Oilseeds are brought into Purandhar and the eastern subdivisions by Telis and the usual import traders from Ahmadnagar and Sholapur, and by Marathas, Musalman and Lingayat Vanis from Phaltan and Satara. Cotton seed, which are used for feeding milch-cows are brought from Ahmadnagar Khandesh and Sholapur. *Moha* flowers come from Thana, Ratnagiri Gujarat and Jabalpur, and are sold to liquor contractor, Salt which was formerly brought by pack-bullocks, now comes mostly by rail and a little by the Nana and Malsej passes from Thana. Dry fish are brought from Bombay and Thana by rail, and by the Nana pass by Musalmans, Bhois, and butchers. Under imported metals come gold, silver, copper, brass, iron, lead, zinc, and tin. During the American war large quantities of gold and silver found their way into the district. Most of the gold and silver, were, made into ornaments; the rest was hoarded.

During the 1876-77 famine a large quantity of gold and silver ornaments left the district chiefly to Bombay. Since the famine year better harvests have again started the import of silver and gold. Copper and brass were formerly imported in blocks and worked first into sheets and then into vessels. Of late years ready made sheets have been largely imported from Bombay and considerably lowered the price of brassware. Copper and brass ready-made cooking and drinking cups, of which there is a growing manufacture in the city of Poona are also brought from Nasik. They are used by all but the poorest classes. The import of iron has of late greatly increased and it is made in considerable quantities into water pails and butter and oil cans. Iron is also much used for cart tires and axles. All of it comes from Bombay, brought chiefly by Bohora Musalmana Imported groceries, chiefly dates cocoanuts and spices, are largely used by all classes. They are brought by rail as well as on pack-bullocks by the Nana and Malsej passes, from Bombay, and by rail from Sholapur. Refined sugar comes from Bombay, and raw sugar of which since the opening of the Mutha Canals a large quantity is produced in Haveli, is brought into Poona from Phaltan, Satara Kolhapur, and the Bombay Karnatak. In Poona city there is a large trade in raw sugar. During 1875-76 nearly 3750 tons (5260 *khandis*) valued at £45,236 (Rs. 4,52,360) were imported. A large proportion of the imports are exported chiefly to Ahmadabad. Tea and coffee which are used only by a few classes are brought from Bombay in small quantities. Tobacco is brought by Lingayat Vanis and Tambolis from Satara, Sholapur, Miraj, Sangli, and Kolhapur Malabar teak comes from Ratnagiri and Thana. Other timber also comes from Bhor, Nasik, and Thana. Indigo and silk are imported from Bombay by rail. English and Bombay cotton twist is brought by Bohoras and Gujarat Vanis and distributed over the district to handloom weavers. Of late the outturn of the Bombay factories has to a great extent taken the place of English yarn. Piece-goods are of two chief kinds, hand-made and steam-made. The hand-made goods, waistcloths, turbans, and women's robes, which are prepared in considerable quantities in the district at Sasvad are also brought from Burhanpur, Yeola, Ahmadnagar, Paithan Ahmadabad, and Nagpur. The machine-made piece-goods are Bombay coarse strong cloth, chiefly for waistcloths, sheets, and towels from Bombay, and European finer fabrics and prints brought by Bohoras and Gujarat Varus from Bombay. Of late years, except during the 1876-77 famine, the import of steam-made piece-goods has rapidly increased, the cheapness both of Manchester and of Bombay goods stimulating the trade. Silks, like piece-goods, are of two kinds, machine and hand made. There is little local demand for steam-made European silks, but the produce of the Bombay silk mills is gradually taking the place of hand-made silks.

Hand-made silks, chiefly turbans, scarfs, and bodice-cloths, from Burhanpur, Yeola, and Paithan, and brocades from Surat and Ahmadabad, are brought into the district by Marwar and Gujarat Varus, Bohoras, and tailors. The chief dealers in silks are Marwar and Gujarat Vanis, Bohoras, Momins, and Patvegars. No class of merchants deals exclusively in silks, but almost all rich merchants keep silk fabrics in stock. Carpets or *satranjis* are brought from Agra, Ahmadnagar, and Khandesh. Glassware—chiefly China bangles—are brought by Kasars and other glass articles by Bohoras and other Musalmans. European liquor comes from Bombay. Of late the import of matches and of kerosene oil has greatly increased; they are now found even in small villages. Well-to-do Musalmans and Parsis have taken to use English furniture and China ware. The use of tea, coffee, and European liquor by wealthy Hindus has also become common.

EXPORTS.

Of Exports the chief are, of vegetable products, grain, cotton, raw sugar, vegetables, betel leaves, myrobalans, and roots and barks for dyeing; of animal products, honey, hides, and horns; and of manufactured articles, clarified butter, brassware, shoes, silk cloth, home-spun cotton cloth, ivory and wooden toys, and perfumes. Under grain, besides *bajri* and *jvari*, come wheat and gram. Since the opening of the railway the export of perishable produce has greatly increased. Among the chief branches of this trade are the export of betel leaves, vegetables, and fresh fruit from the Haveli and Purandhar sub-divisions, and of potatoes from Junnar and Khed. The trade is rapidly growing on account of the impetus given to market-gardening by irrigation from Lake Fife. Plantains are sent from Ale, Otur, and Junnar to Bombay by Talegaon, also from Valha in Purandhar by the old Satara road to Poona. Grapes are sent from Vadgaon, Kandali, Rajuri in Junnar, and from Pabal and Kendur in Sirur. Figs are sent from Diva, Parincha, Sonavri, Gurholi, Mahur in Purandhar, and from Gogalvadi and Alandi-Chorachi in Haveli. Pomegranates are sent from Supa, Devalgaon, Gadag, Vadgaon in Bhimthadi, and from Alandi-Chorachi and Urali-Kanchan in Haveli. Mangoes are grown extensively at Khed Shivapur in Haveli, also at Sasvad, Chambli, Supa Khurd, Bhivri, and Bapgaon in Purandhar, and Ausari-Khurd and Kadus in Khed. In ordinary years small quantities find their way to Bombay. Oranges and guavas are grown at Kothrud, Yerandavna, Mundhva, Parbati, Mali, and Munjeri, and sent for sale to Poona. Limes are grown at Kurli, Parbati, Yerandavna, Vanavdi, and Mundhva. Potatoes are largely grown in the Khed sub-division, and from Khed as from Junnar they are sent by Talegaon. They are also sent from Talegaon—

Dhamdhere and Pabal. Onions are sent from the Talegaon-Dabhade station. Chillies are sent by the same route from Kahu, Gulani, Vaphgaon, Chakan, Bhos in Khed, and from Khodad, Narayangaon, and Arvi in Junnar. Cabbages and other fresh vegetables, as green chillies, *ghevda* Dolichos lablab and *govari* Cyamopsis psoraliodes pods, and the young shoots of coriander or *kothimbir* go in considerable quantities to Bombay. In the village of Charholi-Budruk on the Indrayani, upwards of £4000 (Rs. 40,000) are said to be invested in growing betel leaves. Betel leaves are also produced, principally by Marathas and Malis, in Belhe in Junnar, Parincha Mahur and Diva in Purandhar, Alandi and Dondi in Khed, Mahamadvadi and Vanavdi in Haveli, Nimbgaon-Ketki and Vihali in Indapur, and Vapanda in Bhimthadi. The trade in betel leaves is rapidly growing on account of the impetus given to market-gardening by irrigation from Lake Life. From the north of the district there is a considerable export of myrobalans to Bombay.

Colouring roots are prepared by Mhars, Mangs, Chambaras, and Musalmans, and sold to Parsis, Dhors, and Musalmans who send them by rail to Bombay, Poona, Ahmadnagar, and other places. *Bajri* is sent from Haveli, Purandhar, Khed, and Junnar by cart to Poona by Marwar and Gujarat Vanis and cultivators. *Jvari* is sent from Indapur, Bhimthadi, and Sirur by rail and cart to Poona. Nearly three-fourths of the cotton grown is sent by rail from the eastern sub-divisions to Bombay by Bhatias and Marwar and Gujarat Vanis. Raw sugar, which is imported in large quantities, is also exported to Ahmadabad. Junnar hand-made paper was formerly largely exported, but of late the trade has much fallen. In Haveli metal-ware is made in large quantities in the city of Poona by coppersmiths and others who send the articles by rail to Bombay and Sholapur, and by road to Satara, Kolhapur, and other places. In Junnar the metal-ware suffices only for local use. Indapur, Sirur, Maval, Bhimthadi Purandhar, and Haveli export hides, horns, and bones chiefly to Bombay and Poona, and Junnar, and Khed export hides and horns only. The dealers are generally Mangs, Mhars, Musalmans, and butchers. About 200 cartloads, each containing twenty hides, go every year from Junnar, and 100 cartloads from Khed each containing twenty-five to thirty hides. Indapur sends about 500 *mans* of these articles, Purandhar about 500 to 1000 hides and 200 to 500 horns, and Haveli five to seven thousand hides. A Parsi has started a bone store at Bhamburde near Poona. In Junnar, the export of hides and horns is on the increase.

[RAILWAY TRAFFIC.](#)

A comparison of the Peninsula railway traffic returns, during the eight years ending 1880, [Detailed traffic returns are not available from 1881 to 1883] shows a rise in the number of passengers from 767,186 in 1873 to 1,140,136 in 1880, and in goods from 69,290 tons in 1873 to 112,682 tons in 1880 against 125,245 in 1878. The chief passenger station is Poona with an increase from 462,145 in 1873 to 593,897 in 1880 against 608,039 in 1878. Other important passenger stations with a comparatively small goods traffic are Dhond, the junction of the Peninsula railway and the Dhond-Manmad State railway, with an increase from 24,673 in 1873 to 135,699 in 1880; Talegaon with an increase from 63,071 in 1873 to 98,085 in 1880 against 103,751 in 1878; Lonavla with an increase from 44,837 in 1873 to 57,209 in 1880 against 60,441 in 1878; Chinchvad with a decrease from 44,017 in 1873 to 25,355 in 1880 ; Kirkee with an increase from 30,224 in 1873 to 41,309 in 1880 against 42,739 in 1878; Khandala with an increase from 13,115 in 1873 to 28,925 in 1880; and Khadkala with an increase from 19,127 in 1873 to 26,921 in 1880 against 26,935 in 1878. In 1880 the passenger traffic at the remaining stations varied from 5115 passengers at Boribyal to 23,138 at Diksal. Poona is also the chief goods station showing an increase from 47,220 tons in 1873 to 84,345 tons in 1880. Other important goods stations but with a comparatively small traffic are Talegaon with an increase from 5944 tons in 1873 to 10,732 tons in 1880; Dhond with an increase from 4599 tons in 1873 to 4758 in 1880 against 25,975 in 1878; Diksal with an increase from 1532 tons in 1873 to 4062 tons in 1880 against 4285 in 1878 Kirkee with a decrease from 4152 tons in 1873 to 3414 tons in 1880; and Lonavla with a decrease from 1530 tons in 1873 to 1252 in 1880. The goods traffic at the remaining stations in 1880 varied from 339 tons at Loni to 783 tons at Urali. There was no goods traffic at Karla, Vadgaon, Shelarvadi, Yevat, and Boribyal.

The following statement shows for each station the changes in traffic during the eight years ending 1880:

*POONA PENINSULA RAILWAY, PASSENGER AND GOODS TRAFFIC,
1873, 1878, 1880.*

STATION.	MILS FROM Bombay	1873.		1878.		1880.	
		Passen- gers.	Tons of Goods.	Passen- gers.	Tons of Goods.	Passen- gers.	Tons of Goods.
Khandala	77	13,115	2521	26,278	553	28,925	730

Lonavla	79½	44,837	1530	66,441	1132	57,209	1252
Karla	84½	--	--	8352	--	9138	--
Khadkala	84¼	19,127	389	26,935	145	26,921	739
Vadgaon	96	--	--	--	--	6841	--
Talegaon	98	63071	5944	103,751	4712	98,085	10,732
Shelarvadi	104	--	--	--	--	10,181	--
Chinchvad	109	44,017	824	28,474	881	25,355	586
Kirkee	115¼	30,224	4152	42,739	3775	41,309	3414
Poona	119	462,145	47,226	608,039	81,775	593,897	84,345
Loni	129½	6,902	56	12,704	448	12,621	339
Urali	137	13,501	278	18,164	483	20,819	783
Yevat	145	--	--	12,817	--	12,014	--
Khedgaon	152½	13,229	133	17,768	560	17,802	489
Patas	159	14,329	106	17,447	526	15,067	453
Dhond	165¼	24,673	4599	81,044	25,976	135,699	4758
Boribyal	172¼	--	--	4989	--	5115	--
Diksal	183¼	18,016	1532	25,652	4285	23,138	4062
Total	--	767,186	69,290	1,101,594	125,245	1,140,136	112,683

In the goods returns the chief changes are, under exports, an increase in fruits and vegetables from 8760 tons in 1873 to 13,736 tons in 1880 against 7186 tons in 1878; in sugar both raw and refined from 716 tons in 1873 to 2080 tons in 1878 and to 3595 tons in 1880; in grain from 1019 tons in 1873 to 7514 tons in 1878 and to 1797 tons in 1880; in metal from 678 in 1873 to 1573 in 1878 and to 1419 tons in 1880; in firewood from 101 tons in 1873 to 770 tons in 1878 and to 1172 tons in 1880; in oil from 213 tons in 1873 to 728 tons in 1878 and to 630 tons in 1880; in hides and horns from 259 in 1873 to 506 tons in 1878 and to 587 tons in 1880; in tobacco from eighteen tons in 1873 to fifty-two tons in 1878 and 227 tons in 1880; in linseed and sesamum oilseeds from eighty-two tons in 1873 to 126 tons in 1878 and to 104 in 1880; in cotton an increase from 1582 tons in 1873 to 2584 tons in 1878 and a decrease to 704 in 1880; a decrease in salt from 522 tons in 1873 to seventy-six tons in 1878 and to twenty-seven tons in 1880 and in timber from 225 tons in 1873 to 100 tons in

1878 and to thirty-three tons in 1880. The other exports besides sundries, which amounted to 8394 tons, varied in 1880 from two tons of Europe twist to seventy-six tons of country piece-goods. Under imports there was an increase in grain from 18,077 tons in 1873 to 41,856 tons in 1878, and to 47,222 tons in 1880; in metal from 1902 tons in 1873 to 3774 tons in 1878, and a decrease to 3276 tons in 1880; in sugar both raw and refined an increase from 1146 in 1873 to 1496 tons in 1878, and a decrease to 1224 tons in 1880 probably due to the large production of raw-sugar in the district consequent on the increased cultivation of sugar-cane along the Khadakvasla canals; an increase in firewood from 128 tons in 1873 to 734 tons in 1878, and a decrease to 644 in 1880; in *moha* flowers from nothing in 1873 to 214 tons in 1878 and to 560 tons in 1880. There was only a slight increase in the imports of Europe piece-goods from 685 tons in 1873 to 742 in 1878 and to 774 tons in 1880; and in country piece-goods there was an increase from 721 tons in 1873 to 862 tons in 1878 but afterwards a decrease to 676 tons in 1880. In Europe twist there was a decrease from 364 tons in 1873 to 832 tons in 1878 and to 198 tons in 1880. In country twist there was an increase from 234 tons in 1873 to 342 in 1878 but afterwards a decrease to 244 tons in 1880. Other imports besides sundries, which amounted to 19,419 tons, consisted of cotton eleven tons and of wool ten tons. There was a decrease in fruits and vegetables from 1204 tons in 1873 to 1090 in 1878 and to 789 in 1880; in oilseeds from 1094 in 1873 to 680 in 1878, but afterwards an increase to 750 tons in 1880; in oil there was a decrease from 994 tons in 1873 to 806 in 1878, but a slight increase to 910 in 1880. The details are:

POONA PENINSULA RAILWAY GOODS TRAFFIC. 1873. 1878. 1880.

ARTICLE	1873.		1878.		1880.	
	Outward.	Inward.	Outward.	Inward.	Outward.	Inward.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cotton	1582	14	2584	2	704	11
Fruit	8760	1204	7186	1090	13,736	789
Firewood	101	128	770	734	1172	644
Grain	1019	18,077	7514	41,856	1797	47,222
Hides and	259	59	506	233	587	266

Horns						
Oilseed	82	1094	126	680	104	750
Metal	678	1902	1573	3774	1419	3276
<i>Moha</i> Flowers	--	--	88	214	8	560
Oil	213	994	72	806	630	910
Piece- goods, Europe	--	685	2	742	3	774
" Country	17	721	33	862	76	676
Salt	522	1170	76	1304	27	697
Sugar, Raw and Refined	716	1146	2080	1496	3595	1224
Sundries	7824	16,676	9863	34,625	8394	19,419
Timber	225	2774	100	2724	33	2402
Twist, Europe	--	364	1	382	2	198
Twist, Country	2	234	2	342	28	244
Tobacco	18	19	52	218	227	56
Wool	--	11	9	1	12	10
Total	22,018	47,272	33,213	92,032	32,554	80,128

At Dhond, the only station of the Dhond and Manmad railway within Poona limits, the traffic consisted of 29,264 in and 31,977 out passengers, and 610 tons of exports and 136 tons of imports in 1879 against 64,406 in and 61,440 out passengers and 4780 tons of exports and 112 tons of imports in 1880.

There are no trades-unions or *mahajans* in the district, nor is there any Nagarshet or recognized head in matters of trade. Dayaram Atmaram, a Vani, who died fifteen years ago and was the recognized head of the banking business, was the last Nagarshet of Poona.

Disputes between traders are frequently referred to the whole body of traders in any one branch of trade. The chief members form a committee or *panch*, and their decisions are always accepted. Formerly a few recognized head traders formed the *panch* in each trade, but here as elsewhere the levelling tendency of British rule has had its effect, and, except that petty dealers are not consulted and do not expect to be asked to join a trades meeting, all the members of a trade have, and exercise, an equal right to appear at a meeting of a trade's *panch*. Regular strikes are unknown, but a falling market or scarcity of labour from time to time causes changes in wages. When any change has to be made the chief members of the trade meet the artisans and after discussion fix a revised rate. In this manner in 1881 a claim by the silk weavers for a rise in wages was settled in their favour after the matter was discussed with the silk merchants. The decisions of these committees have hitherto been accepted as final. At the same time there is no recognized means of enforcing them except that if an artisan refuses to work at the rate settled he receives no employment. So also traders will cease to deal with any member of their trade who refuses to abide by the decision of a trade committee or *panch*.

CRAFTS

[From materials supplied by Mr. B. A. Gupte, head Clerk Sir J, J, School of Art and Industry.]

Except cotton handloom weaving which to a small extent is carried on in thirty-seven towns and villages and some small metal work, silk weaving, and paper making at Junnar the industries of the district centre in the city of Poona. For Poona city details of twelve crafts have been collected. These are, in order of importance, the making of copper and brass vessels, the weaving of silk and cotton cloth, the making of gold and silver thread, glass bangles, ivory combs, clay figures, iron pots, felt and paper, tape weaving and wood turning. Of these the making of copper and brass vessels and the weaving of silk and cotton cloth with or without gold and silver thread are the most important and flourishing. Glass bangles, ivory combs, felt and tape are in good local demand. Poona clay figures are admired and are bought chiefly by Europeans. On account of their cheapness iron pots are taking the place of the large brass and copper vessels used for storing Water and grain. Paper making is declining and none of the woodturners work has more than a local sale.

[BRASS WORK.](#)

Workmen.

The Poona brass industry supports (1883) about seventy dealers and 2320 workers. This number includes 810 Tambats or makers of large articles, 500 Jingars or makers of small articles, 50 Otaris or casters, and 960 Kasars or brasiers. The hereditary copper brass and bellmetal workers of Poona, the Tambats, Jingars, Otaris, and Kasars are quiet easy-going people. All speak incorrect Marathi and live in one-storeyed houses of which seven belong to the Tambats, fifty or sixty to the Jingars, and thirty to the Otaris. They generally live on vegetable food, but are allowed to eat mutton and fish as well as to drink liquor which they take on holidays and special feasts. The Kasars and Tambats dress like Brahmans and the Jingars and Otaris like Marathas. As the demand for brass ware is brisk and growing, no Tambats, Jingars, Otaris, or Kasars have of late given up their hereditary craft. Within the last fifteen years their numbers have been more than doubled; by local Maratha Kunbis whom the high profits of brass working have drawn from the fields and the labour market but who so far confine themselves to the rough parts of the work. The hereditary coppersmith classes work from seven to ten or eleven and against from two to six. In the busy season, that is between November and May, they work extra hours even till midnight. Like other local Hindu craftsmen, Kasars stop work on the no-moon day or *amavasya* at the end of every lunar month, on *kar* the day after the *Mahasankrant* in January, for five days at *Holi* or *Shimga* in March-April, for two during *Divali* in October-November, and on the day after an eclipse either of the sun or of the moon. They also rest on *Ganpati's* Fourth in August and on *Gauri's* Day about the same time, and for ten days at *Dasara* in October. All rest on any day on which one of the community dies. They have no trade guild, but join in paying a half-yearly tax to the goddess Kalika for whom they have built a temple in Kasba ward which costs 14s. to 16s. (Rs.7-8) a month to keep up. The Kasar's Kali differs from other local Kalis in having camel supporters on each side of here instead of elephant supporters. Also instead of offering her a goat or buffalo, on the eighth day of the *Navratra* that is two days before *Dasara*, they offer her the false calabash gourd *kohola* *Cucurbita lagenaria*, which perhaps from its dark colour, is believed to be a transformed giant. Four pegs are driven into the fruit to represent legs and arms and it is cut with a sword, and thrown into the sacred fire. A little brass and bellmetal is smelted by the Jingars and Otaris but the bulk of the copper and brass comes in sheets about three feet by four by rail through Bombay chiefly from England and Australia. They are brought from Bombay by Marwar and Gujarat Vanis and given to be worked by Tambats. The sheets or brasiers are of three kinds, thick middle and

thin, which differ little in price as they are sold by weight. The copper costs £4 8s. to £4 10s. (Rs. 44-45), and the brass £3 8s. to £3 10s. (Rs. 34-35) the hundred-weight, with two shillings extra one for brokerage and one for carriage. A coppersmith has fifteen chief tools and appliances.

Tools.

A stone or *dagad* about three feet above and two feet under ground on which the copper and brass plates made by melting old broken pots are beaten. As it has to stand very rough usage this stone is chosen of flawless black basalt very carefully smoothed. One of these stones is said sometimes to cost as much as £10 (Rs. 100). Since the import of metal sheets has grown so common the stone has almost fallen into disuse: Five hammers or *ghans* worth 8s. (Rs. 4) each: A pair of bellows or *bhatas* worth 12s. (Rs. 6): Four iron hooks or *orapnis* each worth 6d. (4 as.): Four pairs of tongs or *sandsi* worth 10s. (Rs. 5): An anvil called *sandhan* or *mekh*, a long upright iron bar polished at one end on which the pot is placed and beaten, worth about 4s. (Rs. 2): Twenty to twenty-five special anvils or *kharvais*, thick iron bars bent and smoothed at one end, together worth £12 to £15 (Rs. 120-150): Four ordinary anvils or *airans* together worth £2 (Rs. 20): About fifty small hammers or *hathodas* with which the pot is beaten when it is placed on the bar anvil together worth about £10 (Rs. 100): Two pairs of scissors for cutting the copper or brass sheets each worth 4s. (Rs. 2): A wooden stand or stool called *khodve* for supporting the bar anvil. This is a block of wood with two logs about 60° apart, and, in the angle between the legs, a solid block of wood with a pole in the middle. Through the hole in the block the bar anvil is passed slanting till its one end rests on the ground and the top end remains standing out about a foot from the hole. The coppersmith sits on the low end of the bar anvil puts the pot at which he is working on the top end of the bar anvil, and, holding the pot in his left hand, beats it into shape with a hammer held in his right hand: Two files worth 2s. (Rs. 1) each which last for only a year: Two pairs of compasses or *kaivars* together worth 4s. (Rs. 2): Two hollow stones or *ukhals* each worth 8s. (Rs. 4) on the top of which the sheet is laid and rounded by hammering: Eight chisels or *chhanis* for cutting the metal together worth about 3s. (Rs. 1½).

Jingars or brass-casters have sixteen chief tools and appliances: An anvil or *airan* worth 10s. (Rs. 5): Four bar anvils or *kharvais* together worth 16s. (Rs. 8): Four hammers or *hathodas* together worth 8s. (Rs. 4): A pair of tongs or *sandsi* worth 1s. (8 as.) : Two pairs of scissors

together worth 2s. (Re. 1): Five yearly-renewed files or *kansis* each worth 3*d.* to 9*d.* (2 - G *as.*): A vice or *shagda* worth 8s. (Rs. 4): A pair of bellows or *bhatas* worth 1s. (8 *as.*) : A saw or *karvat* worth 1s. (8 *as.*): An iron bar or *sandhan* with one end smoothed to serve as an anvil worth about 4s. (Rs. 2): A flat iron rasper or *randha*, six inches by half an inch with one end bent and sharpened used for scraping and polishing pots, worth 1s. (8 *as.*): A borer or *samta* worth 1½*d.* (1 *an.*): A twenty-four inch foot rule or *gaj* worth 3*d.* (2 *as.*): A square iron tray or *tas* worth 6*d.* (4 *as.*): A palm loaf fan or *hadpana* used in fanning the fire worth ¾*d.* (½- *a.*) : And two or three crucible catchers or *chyaks*. The *chyak* is an iron ring about three feet round with two long iron bars fastened at equal distances apart. Over the ends of these bars a second ring about twenty inches across is passed and moved up and down the bars' so as to increase or reduce the space above the base ring. In working the *chyak* the base ring is lowered into the furnace so as to surround the crucible, and the movable ring is forced down the bars till the crucible is tightly pressed between the bars and can be drawn out of the furnace.

Process.

In making brass, bellmetal or *kase*, and white metal or *pancharasi*, the alloy is smelted in a pit about three feet round and four or five feet deep. At the bottom of the pit a bellows' tube is firmly fixed, and over the bellows' tube are laid three or four flat-bottomed dome-topped crucibles or pots, about eighteen inches high and a foot round. The crucible, which is called *mus*, is made by the brass workers themselves of powdered broken China, flint, and ashes. After putting some borax or *savage* into the crucibles to serve as a flux, if brass is to be made, they are filled with broken pieces of copper and zinc and closed by an air-tight plug. Charcoal, dried cowdung-cakes, and wood are heaped over the crucibles. The fire is lighted, and, with the help of the bellows, is blown to a white heat. The men know the time, generally four to five hours, which the alloy takes to form. When the metal is ready each crucible is grasped in the *chyak* and lifted out of the furnace. On taking it out the side of the crucible is bored by the point of a nail, and the molten metal flows into shallow clay troughs where it is left to cool. When cool the solid mass is dragged from the trough by a pair of tongs or *sandsi*, laid on the stone or *dagad*, and beaten to the required thinness. To form metal sheets, whether local or imported, into the required shapes, the sheet is laid on the floor and the workman traces on it with a pair of compasses, the pieces required for the upper and the under parts of the vessel to be made and cuts out the two pieces with scissors or with a chisel. The metal is then softened in the fire and

hammered, and again softened and again hammered, the alternate hammering and heating being repeated three or four times till it is beaten into shape. The two pieces are then soldered with brass, borax or *savagi*, and chloride of ammonia called *navasagar*. The men work in bands of five or six dividing the labour. Some make the rough outline of the shape, others shape the neck, a third set form the lower piece, a fourth solder the shaped pieces, and a fifth polish the whole. All the polishing which the Tambats give is a rough scrubbing with a mixture of powdered charcoal and tamarind pulp, followed by beating with a small hammer till the whole surface is covered with hammer marks or facets.

Articles.

Poona copper and brass articles may be arranged under fourteen groups. Those used in the kitchen, those used in eating and drinking, those used in storing and carrying water, articles used in serving betel, musical instruments, measures, lamps, dishes and vessels used in worship, images, peasant jewelry, toilet requisites, appliances used in the dining hall but not for eating or drinking, miscellaneous ware and toys. Twenty pots are used in the kitchen. The *patele* (1) a cylindrical copper or brass pot, with slightly rounded bottom, varying in size from two inches round to four or five feet across and two or three feet high. The *tapele* (2) a somewhat conical pot, with round bottom and narrow neck. *Tapeles* vary from three inches to four feet across the bowl, the small ones being used for boiling rice and holding milk and the large ones for storing water. The *bahugune* (3) a cylindrical pot like the *patele* (1) only with a more bulging bowl and seldom more than a foot in diameter. The *karanda* or *modak patra* (4) a stew-dish for making *modaks*, *shengas*, and one or two other native dainties. [*Modaks* and *shengas* are made of rice flour and contain cocoa-kernel, sugar, cardamums, almonds, and saffron. Their only difference is in shape. *Modaks* are shaped somewhat like a flat-bottomed lotus bud and *shengas* are semicircular.] The *karanda* is made of three pieces; underneath a cylinder with flat side handles; in the middle a metal sieve with two hook handles; and at the top fitting the rim of the cylinder a dome with a cup-shaped handle. Water is boiled in the cylinder, the sieve is set in its place, the dainties are placed either on the sieve or on a piece of plantain leaf laid over it, and the lid is fastened down. Heat is applied to the lower part, and the steam gathering in the cover stews the dainties. The *paradi* (5) is another sieve or perforated dish used to carry off the surplus grease when *karanjis* or *anarsas* are fried in clarified butter. [*Karanjis* like *shengas* are semicircular and made of flour, cocoa-kernel, sugar, cardamums,

almonds, and saffron. *Karanjis* differ from *shengas* in being made of Wheat flour instead of rice and in being fried instead of being stewed. *Anarsas* are made of rice flour, raw sugar, and poppy seed. They are round cakes about as big as the palm of the hand.] The *rovali* (6) is a cylinder six to nine inches across and nine to twelve inches high, with a sieve at the bottom, used for washing rice before it is boiled. It is sometimes shaped like the *tapele* (2). The *jhara* (7) is a long handled sieve used for frying the gram flour paste required for *bundhis*. In making *bundhis* gram flour mixed with water is poured into this sieve which is held over a frying pan with boiling clarified butter and shaken. The gram flour paste falls into the pan in drops which become solid as soon as they touch the boiling clarified butter. The drops are then taken out in another sieve called *upasni* (8) which differs from the *jhara* (7) chiefly in not having a rim. The *chahadani* or *kitli* the English kettle is now in much use particularly among English-speaking natives. The *kadhahi* (10) or frying pan is a hemispherical pan six inches to six feet across and one inch to two feet deep; it has two handles opposite each other and is used for frying. The *parat* (11) is a large dish two to five feet in diameter with a rim two to four inches high. It is used as a cover for a *patele* (1) or other large pot when anything is being cooked in it. It also serves for carrying cooked rice or vegetables from the kitchen to the dining hall. A small *parat* about a foot in diameter and made of brass, called *pitali* is used in the same way as the *parat*, and in addition among Kunbis and other middle-class Hindus serves as a dining dish. The *pali* (12) is a spoon with a rounded body and a long handle. It is used as a stirring rod or ladle while vegetables or pulse are being cooked and as a distributing spoon in the dining hall. The *daba* (13) is a cylindrical box with a top for storing dainties. The *velni* (14) is a saucer-shaped dish-like pot, usually one or two feet in diameter and sometimes polished in which enough rice for two or three guests is taken from the *parat* or tray, and poured into the plate. This dish also serves as a cover to a pot in which vegetables or pulse are boiled. The *chamcha* (15) or spoon made of brass is used for pouring liquid butter on rice. The *katan* (16) or *phiraki*, a tooth-edged circular plate fitted in a cleft handle is used for cutting the notched borders of *karanjis*. The *kisni* (17) or cocoa-kernel slicer is a sheet of brass about six inches by four on four two inch high feet. The surface of the sheet is broken by several rows of long narrow hollow ridges with raised sharp-edged openings against which the kernel is rubbed and cut into long slices: The *latane* (18), a slightly tapering brass rolling-pin a foot to eighteen inches long used for flattening *polis*, a variety of *karanjis* and *anarsas*: The *chalar* (19) is a brass sieve: The *panchamrit patra* (20) is a set of seven brass cups, six cups ranged round a central one with a handle; it is used for carrying *koshimbirs*

that is pickled fruit and vegetables from the kitchen to the dining hall. Fifteen eating and drinking pots are made: The already described *parat* tray (11) and the *velni* (14) come again in this group as they are used in serving rice and vegetables, and so does the *ograle* or *mudale* rice ladle (21); the *velni* is used for the second and later courses and the *ograle* for the first course only: The *tat* (22), a polished brass dining dish with bulging rim six inches to two feet across: The *vati* (23) a round-bottomed cylindrical brass cup one to four inches across is used to hold each man's share of curry and broth: The *gadva* (24) a polished narrow-necked copper or brass dinner pot, used to hold each man's supply of drinking water, varies from the size of a pear when it is called *apkara* to the size of a full grown pommelo; a spout-mouthed *gadva* is called *jhari*: The *valyacha tambya* (25) also made of copper or brass, is flatter than the *gadva* and like it is used as a water cup. The *loti* (26) is a pear-shaped pot like 25 and 26 in use size and material: The *kadi* (27) is a ring with a handle for the *gadva*, *tambya* and *loti*: The *manakarnika* (28) is a small brass drinking cup: The *chambu* (29) is a small water jar: The *panchpatri* (30) is a cylindrical water cup with a rim: The *jamb* or *pyala* (31) is a drinking cup set on a round stand: The *rampatra* (32) is a *jamb* (31) without a stand: The *phulpatra* (33) is a cylindrical cup like the *panchpatri* with a thicker and broader rim. The seven chief vessels for storing and carrying water are. The *patele* (1) and *tapele* (2) already described: The *handa* (34) a short-necked cylindrical pot used both for carrying and storing water: The *ghagar* longer-necked and with a more sharply sloping lower part than the *handa*; when small the *ghagar* is called *kalasi*: The *ghangal* or *gangalaya* (36), a copper jar ten to fourteen inches across, and four to nine deep, is used for holding hot bathing water and for steeping clothes: The *panchpatra* (37) is a large copper cylinder two to three feet across and three to four feet deep with a rounded rim and two handles: some *panchpatras* now have a stop-cork at the bottom and an iron stand: The *surai* (38) is a globular pot with a long narrow neck used by travellers for carrying water. The fifteen articles used in serving betel or *pan supari* are: The *tabak* (39) a round dish six inches to two feet across, with a rim half an inch to two inches high, the whole embossed with lotus flowers and other designs; it is used for keeping the fourteen smaller articles belonging to the set of betelnut dishes: The *chauphula* (40) is a box with six or eight compartments and three or four legs; each compartment has a separate top or lid shaped like the petal of a lotus or like a mango and sometimes ornamented with a peacock which serves as a handle; all the lids close inwards where a screw shaped like a lotus bud, when turned into the central hole, keeps the lids tightly fastened, the *chauphula* is used for holding the cardamoms, cloves, nutmegs, mace, saffron, and

perfumed catechu pills which are eaten with betel: The *dabi* (41) is a cylindrical box for the slaked lime, catechu, and other spices which are eaten with betel: The *adkita* (42) is the nut-slitter for slicing the betelnut; it is of three or four different shapes: The *panpud* (43) is a square box for keeping the betel leaves: The *tambakuchi dabi* (44) or tobacco box, is a cylindrical box with a small hole at the top and a lid moving round an axis, with a similar hole, through which, when the two holes are brought one over the other, tobacco is poured to be chewed with the betel and spices: The *chunal* (45) is a box for keeping the slaked lime which is eaten with betel: The *pikdani* (46) and the *tast* (47) are spittoons: The *atar dani* (48) is a small cup fixed in the centre of a little dish for holding the *atar* or perfumed oil which is served after betel: The *gulab-dani* (49) or rose-water bottle, is a bottle with a long narrow neck perforated at the end and fixed to the body with a screw, from which rose water is sprinkled over the guests after the perfumed oil has been served: The *mor* (50) is a peacock-shaped box: The *daba* (51) is a square box, and the *panacha ganj* (52) is a long cylindrical box with compartments used for holding the ingredients which are eaten with betel: The *khal-batta* (53) is a small brass mortar and piston for pounding betel for the aged or toothless. The twelve musical instruments are: The bell *ghanta* (54), either plain or decorated with figures, has a handle either plain or shaped like Maruti the monkey god, or *garud* Vishnu's winged charger: The *jhanj* (55) a flat and the *tal* (56) a rounded cymbal, both used as an accompaniment by reciters of psalms or *drtis*, by hymn-singing beggars, and by sermon-and-song or *kirtan* preachers: The *chal* (57) a row of little bells worn round the ankles by dancing girls: The *ghungurs* (58) are bigger bells worn round bullocks' necks and round the waist of some low class begging devotees of Kali: The *chiplyas* (59) are two fish-shaped flat bars three to seven inches long and one and half inches broad each furnished with a ring; the ring of the upper bar is passed over the thumb and the ring of the lower bar is passed over the second and third fingers and the performer clashes the bars together by the motion of the thumb and fingers: The *kartal* (60) is another pair of metal castanets which are sounded by shaking the band instead of by moving the fingers: The *tasha* (61) or kettle drum is a hollow hemispherical copper pot with a thick rim and a small central hole; which is covered with goat's skin and beaten with a pair of rattan canes along with the *dhol* or wooden drum: The *theka* (62) is a small flowerpot-shaped drum covered with goat's skin: The *khulkhula* (63) is a child's rattle: The *karna* (64) is the large brass bass trumpet: And the *shing* (65) is the brass horn. The three measures are: The *adholi* (66) and the *sher* (67) copper cylinders used in measuring grain: The *pavsher* (68) is a small globular brass pot

used for measuring milk or a cylinder with a small hook-shaped handle for measuring oil. The eight lamps are: The *samai* (69) and the *kandil* or *lamandiva* (70) both have saucer-like brass plates with hollows in the lip for wicks; the *samai* is laid on a high brass stand and the *kandil* on a shorter stand and has a brass chain by which it is hung from the ceiling or from a door lintel: The *diva lavne* (71) is of two varieties, a smaller one an inch or two inch broad flat-bottomed saucer with a wick-hollow in the lip and a larger with a long flat hook-like handle: The *niranjan* (72) is a small cup set on a long or a short stand, for burning clarified butter before the gods: The *pancharti* (73) is a crescent-shaped pot on a stand with five wick-openings which is sometimes fixed in the hand of a female figure: The *divti* (74) is a hollow conical brass handle in which a roll of oiled rags is fitted and burnt as a torch, being fed with oil from a spouted oil flask; it is much used by the devotees of Kali or Bhavani: The *mashal* (75) is a brass cylinder through which a roll of oiled rags is passed and burnt as a torch; the torch has to a great extent given way to the lantern, but is still used by the gentry in native states and it is burnt before Shankaracharya, the Smart Pontiff, when he travels during the day time as well as at night: The *chimnich diva* (76) is the English lamp with a glass chimney. Twenty-six worship vessels and appliances are made: The *abhishekapatra* (77), a narrow-necked copper or brass pot is, somewhat like the *gadva* (24) except that its bottom tapers to a point, stands on a tripod with a ring at the top, and has a hole in the bottom through which water drips on the object of worship: The *sampusht* (78) a hollow cylinder two to six inches across and one to two high is used for washing images: The *chauki* (79) a low four-footed stool, round, square, or six or eight-cornered, is used as an image stand or as a support for an image stand: The *adni* (80) is a stand on which the conch or *shankh* is placed; it is generally tortoise-shaped, and is about half an inch in diameter: The *ghanta* (54) is the already described long handled bell: The *ekarti* or *halkarti* (81), is a two to four inches long fish-shaped pot for burning camphor before the gods: The *pancharti* (73) is the already described five-wicked lamp for burning clarified butter before the gods: The *dhuparti* (82), a stand with hemispherical top and bottom, is used for burning incense: The *niranjan* (72) is the already described lamp for burning clarified butter before the gods: The *arghya* (83) is a narrow cup half an inch to three inches long and a quarter of an inch to an inch broad, with a flat handle and long flat snout from which sacrificial water is poured. The *panchpale* (84) is a box with chambers for the various powders, turmeric *gulal*, *abir*, and *kunku*, with which during the worship the god and the worshipped are from time to time marked: The *kamal* (85) is a round lotus-shaped plate,, sometimes fixed on the back of a metal bull, on which the gods

are placed. The *tamhan*, (86) is a shallow bath, except for its slightly bulging rim not unlike the *tat* or dining dish (22) in which image; are washed: The *simvasan*, literally lion throne, is a four-footed low stool with plates on two sides and a decorated arched back in front of which the gods are kept: The *tabakdi* (88) is a small plate an inch or two broad for holding the brow-marking sandalwood paste and red turmeric: The *kachole* (89), a plate with three oval divisions for keeping the white and red sandalwood pastes and the moistened rice with which the brows of the gods are marked: The *sandhechipali* (90) is a small ladle-shaped spoon for pouring out the sacrificial water: The *vati* (23) is the already described small cylindrical brass cup with rounded bottom from half an inch to an inch across in which sugar or *naivedya* is offered to the gods: The *tulsi-vrindavan* (91) is the ornamented square pot in which the holy *tulsi* *Ocymum sanctum*, the wife of Vishnu is grown: The *devhara* (92) or god shrine, is a dome with a stand on which the gods are arranged and worshipped: The *pujecha-daba* (93) or worship box, is a round box with a tapering lid having a hole in the centre in which the gods are placed at night and the lid fastened; while worship is going on the lid is used as a sieve from which water is allowed to drop over the gods: The *gangajali* (94) is a small *gadva* (24) or water pot with a lid ornamented with the bust of a woman to represent the Ganges, whose water is kept in it and is worshipped along with the house gods: The *ghangali pela* (95) is a handleless *ghangal* shaped (36) cup in which sugar or *naivedya* is offered to the gods at the close of the worship: The *tabak* (39) the *divelavne* (71) and the *divti* (74) are also used in worshipping the gods. Twenty leading brass images are made: Ganpati (96), the god of knowledge and lord of the spirits, a fat four-handed man with the head of an elephant; Shankar or Shiv (97), the destroyer who has a trident in his hand and a necklace made of human skulls round his neck, with his wife Parvati and his son Ganpati on his lap. Maruti (98) the monkey god: Ram the deified king of Oudh supposed to be the seventh incarnation of Vishnu, with his wife Sita, his two brothers Bharat and Shatrughna, and his general Maruti (58): Vithoba (100) with his wife Rakhmai, supposed in some places to be Baudhya or Budha the ninth incarnation of Vishnu: Balkrishna (101) or baby Krishna, the eighth incarnation of Vishnu crawling like a child with a ball of butter in one hand: Murlidhar (102) or the fluting Krishna: Radha-Krishna (103) or Krishna and his beloved Radha: Bhavani Devi (104) or Kali, an eight-handed female figure slaying the buffalo giant Mahishasur: Dattatraya or Trimurti (105), is the Hindu Trinity with three heads and six hands guarded by four dogs which mean the Veds and a cow which means the earth: Khandoba (106) the guardian of the Deccan is shown on horseback: Parvati (107), a seated female figure the wife of Shiv the

destroyer is worshipped by the bride when the bridegroom is brought to the marriage bower and is given to the bridegroom who takes it home and puts it with his house gods: Gauri, the head of a woman is the goddess Bhavani which is worshipped during the Ganpati festival in August: Sheshashai, or Vishnu (109) the protector sleeping on the coils of the thousand-headed snake with his wife Lakshmi shampooing his legs and Garuda standing in front with folded hands. Other brass figures cast in Poona are: A row and a calf (109): A woman (110) holding *ud-battis* or incense sticks; A Gosavi or religious beggar (111) holding a fly-whisk or *chauri*; Riddhi and Sidhhi (112) Ganpati's female fly-whisk bearers: The Nandi (113) or Shiv's bull: A pair of rampant antelopes (114) each holding an *ud-batti* or incense stick: A pair of *ganas* (115) or attendants of Shiv, one blowing a conch shell and the other a horn, to be placed on each side of Shiv. Thirteen articles of peasant jewelry are made: The *chandrakor* (116), the *ketak* (117), and the *phul* (118) for the head; *thusis* (119), *saris* (120), *vajratiks* (121), and *putlis* (122) for the neck; *velas* (123), *gots* (124), and *bangdyas* (125) for the arms; *patlyas* (126) for the wrists; *chhalles* or *salles* (127) for the fingers; and *todes* (128), *vales* (128), and *painjans* (129) for the ankles. Five toilet articles are made: The *karanda* (130), a dome-shaped brass box for keeping red turmeric powder *kunku* or *kunkum*: The *menacha karanda*, slightly different from the *karanda* is used for keeping beeswax which women rub on their brows before they put, on the red brow mark: The *arsis* (131) a burnished-brass mirror with a lid, is either round, square, oval, or heart-shaped: The *kairi* (132) a mango-shaped phial for keeping the *datvan* or tooth-powder [The ingredients of the tooth powder or *datvan* are: *Harda* and *beheda* myrobalans, galls *Quercus infectoria*, *babhul* bark *Acacia arabica*, and copperas or green vitriol.] which strengthens though it blackens the teeth, and is used by lying-in women: The *phani* (133), a brass comb which has now almost entirely given way to ivory and sandal or blackwood combs: The *chankyas* (134), little round studs or spangles applied to the brow below the red mark: The *gandhachi dabi* (135), a cylindrical brass box with a looking glass fixed to the lid in which high class Hindu men keep the saffron pill which makes the red brow mark or *gandh*. Three articles used in the dining hall for other purposes than eating and drinking are made: The *rangole* or *kanale* (136), a hollow cylindrical roll pierced with leaves, flowers, animals and other designs in dotted lines; it is filled with powdered calcspar or *rangoli* and passed over parts of the floor which have been marked with red powder; before a dinner the seat of each guest is marked off with these lines, and on great days the *rangoli* is sprinkled on in front of the door step. The *ud-battiche jhad* (137), a tree-shaped brass stand on which incense sticks are burnt;

the *jhad* is generally placed near the plate of the bridegroom or other distinguished guest: The *phulyas* (138), circular pieces of brass, shaped like a flower with a hole in the centre which are nailed along the edges of the low Hindu dining stools.

Fifteen miscellaneous brass and copper articles are made: The *charvi* (139), *kasandi* (140), and *gundi* (141) globular milk pots: The *tavi* (142) an oval brass milk pot: The *bondle* (143) a spoon with a flat handle and a long snout used in giving milk to children: The *vajri* (144) is a metal plate with roughened surface and a handle used as a foot scraper: The *daut* (145) an ink bottle either round, square, six-sided, or eight-sided: The square or six-sided box (146) containing two ink bottles, one for red and the other for black ink a sand box, and a square gum bottle is also called *daut*: *Abdagiracha kalas* (147) a bud-shaped ornament fixed at the top of the *abdagir* or state wedding umbrella: The *kulup* (148) or padlock, the *bijagre* (149) or hinge, the *taraju* (150) or scales, the *gaj* a bar (151) or window rail, the *bolat* (152) the English bolt, and the *kadi* (153) a ring-shaped handle. Except the vessels and appliances used in worship the images of the gods and the miscellaneous ware all of these brass articles are made small as toys for children. In addition to these pots eight special toys are made: The *khurchi* (154) a small chair; the *palang* (155) a sofa; the *palna* (156) a cradle; the English couch (158) which has been adopted into Marathi under that name though pronounced more like coach than couch; the *mangala* a single fire-place (159) and the *chul* a double fire-place; the table (160); and the *bank* or bench (161).

The Jingars mostly do the finer kinds of brass work, making false jewelry, gilding clocks, turning metal, casting and polishing gods, making locks, and sharpening swords and knives. The Kunbis, who have lately taken to brass work, are of two classes Ghadnars or beaters and Otnars or casters. Of the beaters about five hundred are employed in twenty-five establishments and of the casters about four hundred are employed in twenty establish-ments. The first outsiders or non-hereditary workers who started a brass beating establishment in Poona were Khandu a Satara Mali and Abdulla Billa an Ahmadnagar Musalman. The present workers are all Poona Kunbis. They speak incorrect Marathi, live in one-storeyed hired quarters, eat coarse food chiefly vegetable food, dress in a cap or coarse Maratha turban, a kerchief bound round the loins, a jacket and sometimes a scarf round the shoulder. They are labourers being paid by the outturn and earning 4½d. to 7½d. (3-5as.) a day. They seldom suffer from want of work. They work from sunrise to sunset with only rest enough at noon to take a meal. They stop work on the last or no-moon day of each

lunar month, on the day after *Sankrant* in January, for five days at *Shimga* in March-April, and on the day after an eclipse. They keep these days as days of rest from religious motives not from a love of idleness.

The materials which these Kunbi coppersmiths work up into rough pots are odd pieces of braziers left over by the Tambats in cutting out vessels; the remains of copper sheets punched at the mint or the cartridge factory; and broken pots. These materials on an average cost 5½d. to 7½d. a pound (Rs. 7½-10 the *man* of 32 lbs.). The material is supplied by the owner of the establishment who is either a Kasar or a Varna, and sometimes a Kunbi, and more often by a dealer. The Kunbi coppersmith's tools and appliances differ slightly from those used by the Tambats although they sometimes go by the same names. Instead of a flint and Chinaware crucible the Kunbi brass-smith uses iron cups nine inches across and three to four inches deep. An establishment of ten workmen use 100 to 125 iron cups in the year as the cups burn off and break by constant heating. It is said that about every hundred pounds of brass smelted wear out an iron cup (4 cups in 250 *shers*). Two or three large tongs or *sandasis* about three feet long and eight to ten pounds in weight each worth 3s. to 4s. (Rs. 1½ - 2). Four to six bellows a year each worth 3s. to 5s. (Rs. 1½ - 2½). Circular wooden moulds or *sachas* with a handle each worth 3d. to 4½d. (2-3 as.). Four to six iron bars, three to five feet long and an inch round, called *salagas*, together worth 2s. to 4s. (Rs. 1-2). A large strong anvil fixed in an equally strong *babhul* block worth £1 to £3 10s. (Rs.10-35). Six strong hammers with wooden handles each worth 2s. to 3s. Four pairs of strong scissors each worth 2s. to 3s. (Rs. 1-1½). Four or five four-inch square anvils each worth 4s. to 6s. (Rs.2-3). A second set of twenty to twenty-five hammers or *hathodas* to match the second anvil each worth 6d. to 1s. (4-8 as.). Half a dozen bent bar anvils or *kharvais* five to six feet long, two inches square at one end, and four inches square at the other. Unlike the Tambats the Kunbis have no *khodva* or triangular wooden stand for their bar anvil, a small block is placed below the bar anvil and the workmen sits on the bar with his legs on either side of it. Four to five hammers to match the bar anvil or *kharvai* each worth 1s. to 1s. 3d. (8-10 as.). Four to six small anvils two inches by three to four feet long called *paharai* each worth 2s. to 3s. (Rs. 1 -1½) which are fixed in small *babhul* blocks buried in the ground, eight to twelve small hammers to match the *paharai* anvil together worth 6s. to 12s. (Rs.3-6). A pair of casks four feet high and three feet in diameter for holding tamarind pulp mixed with water each worth 4s. to 6s. (Rs.2-3). A hollow stone or *ukhal* worth 2s. (Re. 1). The small pieces of braziers are gathered together and shaped into

cylindrical lumps. A few pieces of copper and zinc are also put in the iron cup or tray and a small quantity of borax is added. The iron cup is set in the furnace which is a pit three feet round and two feet deep with the sides raised two feet above the floor. Dried cowdung cakes charcoal and wood are heaped above and around the cup. Two bellows are placed one on each side of the opening in the banked sides and worked till the alloy is melted and the parts thoroughly amalgamated. The cup is then lifted up with the large tongs and the liquid contents poured into a circular hollow struck with a wooden mould on a bed of clay. When solidified the rounded cakes of brass are taken to the large anvil or *banda* when one man holds the cake firmly with pincers while five or six labourers hammer it in orderly succession. When it is beaten to a given thinness the cake is put aside and another cake hammered in the same way. The cakes are afterwards taken in heaps of ten or fifteen and again hammered. When thin enough they are cut by scissors into circular pieces of the required size and taken to the second anvil and the hollow stone or *ukhal* to be shaped, and are passed from hand to hand and from anvil to anvil till they are completed. Each pot is shaped in two separate pieces an upper and a lower. When the two parts are ready they are dovetailed and beaten together at the joining. They are then again taken to the furnace and a composition of brass dust and borax is thrown over the joint, the pot is heated, and the joint is once more hammered. The next process is polishing. To polish them, a number of pots are steeped two to four days in a solution of tamarind pulp, rubbed with powdered charcoal and bricks, and hammered again till the whole surface is covered with hammer marks.

Changes in Trade.

Poona brass making originally came from Ahmadnagar, all of whose coppersmiths have now moved to Poona. Pen and Revdanda in Kolaba, which used to make considerable quantities of brassware, are almost entirely without work ; Chandor is declining, and though the practice of pilgrims bringing away Nasik brassware will probably serve to keep up the demand at least for the higher class of articles made at Nasik, unless they change their system, the whole of the Nasik trade in ordinary cooking and drinking vessels will pass to Poona. The Poona coppersmiths are able to undersell their rivals by adopting the union of combination among the workers and separation among the articles made which is the secret of cheap production. The cooking and water vessels made are all of one size and of one shape. And in making it each vessel is passed through a succession of groups of workmen

whose whole attention is given to performing one stage of the work quickly and thoroughly.

SILK WEAVING.

Workmen.

Silk weaving in Poona city is at present (1883) flourishing, and to a great extent has eclipsed the silk weaving of Yeola in Nasik. Of 700 to 800 looms, nearly two-thirds are owned by Momin and Julaha Musalmans who have settled at Mominpura in the Juna-Ganj ward. The Hindu silk workers are found in Kachiali and near Someshvar. The Musalman silk workers; belong to two sections, Momins proper and Julahas, and the Hindu workers to three sections, Khatris, Koshtis and Salis. According to their own account most of the Musalmans came about three generations ago from Haidarabad, Dharwar, Narayan Peth, and Gulmatkal in the Nizam's country, and the Hindu workers, according to their own account, came from Paithan and Yeola three or four generations ago. As a class both Musalmans and Hindus are mild, hardworking, and sober, the Hindus being harderworking and thriftier than the Musalmans. The home speech of the Musalmans is Hindustani and of the Hindus Marathi. Many live in their own houses and the rest in hired quarters. The Hindus, though they eat mutton and fish on holidays, generally live on vegetable food; the Musalmans use animal food almost daily. Both Hindus and Musalmans wear a three-cornered turban, but the Musalman turban differs slightly in shape from the Maratha turban. Both classes wear long white coats reaching the knees. Round their loins the Hindus wear the *dhoti* or waistcloth, and the Musalmans wear trousers. The demand for Poona silk is growing and the workers are well-to-do. Their busiest season is the Hindu marriage time between November and May. The Musalman workers rest from the 5th to the 15th of *Muharram*, on the *Ramzan* and *Bakar-ids*, and on *Saban* and *Waftan*. Hindu silk workers rest on the monthly no-moon day, on the day after the winter *Sankrant* which is called *Kar* in January, for two or three days during the *Shimga* holidays in March-April, during two days at *Divali* in October-November, and on the day after all eclipses. Poona silk weavers work from seven to ten in the morning and from one to sunset. Their women and their children over ten help the men in sorting, reeling, and sizing. Since the 1876-77 famine, about twenty Kamathi Koshti families have come from Narayan-Peth in the Nizam's country and settled at Poona. They own about 100 silk looms and are harderworking and more successful than either the Musalman Khatris or the local Koshtis. The only silk used is China silk. It is of four varieties *duem* or second quality, *sim* or third

quality, *lankin* a variety of the second quality, and *sheval* or *sial*. All of it comes to Poona from Bombay as personal luggage. The *duem* is bought at 16s. 6d. a pound (Rs. 16½ a *sher*), the *sim* at 16s. a pound (Rs. 16 a *sher*), the *lankin* at 15s. 6d. a pound (Rs. 15½ a *sher*), and the *sheval* or *sial* at 13s. 6d. to 14s. a pound (Rs. 13½ to Rs. 14 a *sher*). The Poona silk weavers either borrow money from Shimpi and Marwar Vani silk dealers and buy silk yarn and gold thread, or they work as labourers receiving the materials from Shimpi and Marwar Vani dealers and being paid by the piece. When money is advanced the silk dealers do not charge interest but get 1½ per cent on the sale proceeds of the fabrics.

Tools.

Five tools and appliances are used in a Poona silk worker's or *rahatkari's*, literally wheelman's, factory. These are three large cages called *phalkas* and one small cage called *phalki*, each worth: 3d. to 6d. (2-4 as.); and fifteen or sixteen reels or *asaris* each worth 3d. to 6d. (2-4 as.); [To make a reel or *asari*, a piece of stick is passed through a hollow reed and fixed in the cleft end of a piece of bamboo.] a small wheel for winding the silk from the reels to the bobbins worth 6s. (Rs. 3); about 500 bobbins or *garolis* together worth about 7½d. (5 as.) ; and the large throwing [The throwing machine or *rahat* is in three parts. In the centre is the bobbin frame or *tat* with a central and two side uprights, on one side of the *tat* is the large wheel or *rahat*, six to eight feet in diameter, which gives its name the machine, and in front of the *tat*, supported by two uprights, is the frame or *dhol* about two feet in diameter and six to eight feet in length.] machine or *rahat* worth about £3 6s. (Rs. 33) including £2 10s. (Rs. 25) for the big driving wheels, 8s. (Rs. 4) for the upright wooden frame or *tat* on whose pegs the bobbins turn, and 8s. (Rs. 4) for the drum or *dhol* round which the twisted thread from each bobbin is rolled. To start a silk reeling and throwing establishment requires £3 to £4 (Rs. 30 - 40).

Process.

On getting to Poona, the raw silk is made over to the reeler or *rahatkari* under whose care it is reeled, sorted, and twisted. It next goes to the dyer or *rangari* to be coloured, and when received from him is sent to the weaver or *magvala* by whom it is warped, sized, and woven. At the reeler's or *rahatkari's* the first thing done is sorting the silk. To sort it the silk is thrown round a three feet bamboo cage or *phalka*, with a central handle about two feet long. In front of this cage

the sorter, who is generally a woman, sits, and, fastening the end of the hank to a reel or *asari*, fixes the central rod of the cage against her left foot, and sets it spinning rapidly by twisting the end of the rod between two of her toes. The quality of the fibres in the skein is uneven, varying through five or six gradations. It is the sorter's chief duty to watch these gradations and to wind all of each variety round a separate reel. With this object, before she begins to wind, she gathers near her five or six reels or *asaris*. On finding the end of the skein she knots it to one of the reels, and placing the cage against her left foot, spins it round between two of her toes. The fibre passes through her fingers, and as soon as its quality changes, she breaks the silk, picks up a second reel, knots the end to it, and winds till the quality of the silk again changes, when either a third reel or the first reel is taken up. If the new quality is the same as that on the first reel the sorter puts the ends of the silk into her mouth and knots them with her tongue with great neatness and speed. In this way even a young worker, without hitch or mistake, will sort a hank over five or six reels.

The sorted silk is ready for twisting. To twist it, with the help of a small wheel, the silk is wound from the reels on hollow reed bobbins or *garolis*. These bobbins are then arranged on the throwing machine or *tat*, and, by means of a wheel and axle, the fibres of each bobbin are twisted together and guided through a glass or metal ring round the drum or *dhol*, and then reeled on the smaller cage or *phalki*. This two-thread or *dontar* yarn is used in making some fabrics, but most of the yarn is again wound on a reel and from the reel to the bobbins, and a second time put through the throwing machine so as to make the regular or *chartar* that is four-thread yarn. The *rahatkari* or wheel man, who takes his name from the large wheel that drives the throwing machine, has now completed his work. Silk yarn is called *sheria*. In sorting and twisting it the raw silk loses about eleven and a quarter per cent in weight. To make good this loss a corresponding deduction is made in the standard weight, that is, the *sher* for weighing silk when handed over to the worker is reduced in weight by eleven and a quarter per cent, and is still called a *sher* for weighing the *sheria* or twisted silk. The *rahatkari* receives 15d. to 16d. (10-10 ? *as*.) for each pound of silk that passes through his hands. His monthly income is said to range from 8s. to 10s. (Rs. 4-5). When the *rahatkari* employs labourers he pays them 8s. to 10s. (Rs. 4-5) a month.

After the silk is twisted it is bleached and dyed. In bleaching it the raw silk is steeped in a boiling solution of country soap, or in an alkaline ley called *ukhar* prepared by boiling together slaked lime and *papadkhar* or impure carbonate of soda. While steeping in the boiling

liquid the silk has to be carefully watched as it spoils if kept in it too long. All the Poona silk dyers are Hindus, whose forefathers are said to have come from Paithan about four generations ago. To compete with foreign silks they have given up their old processes and taken to the use of aniline dyes. The ease and speed with which aniline dyes can be used more than make up for their fleetingness. These cheap dyes, together with the inferior silk used, give the silks of Poona a great advantage in competition with the high class fabrics made in Yeola. A silk dyer is said to make 12s. to 14s. (Rs. 6- 7) a month. On leaving the dyer, silk goes to the weaver or *magvala* who performs three processes, sizing, warping and weaving. For a silk weaver's establishment twelve appliances are wanted. They are to prepare the warp the *tansala* or uprights with rings worth 16s. to 18s. (Rs. 8-9); 200 reed bobbins or *tikhadis* for winding the weft together worth about 1s. (8 as.); a small wheel or *rahat* worth 6s to 8s. (Rs. 3-4); a large cage or *phalka* worth 6d. (4 as.), and five small reels or *asaris* each worth 15d. (10 as.); For the loom a cloth beam or *turai* worth 3s. (Rs. 1½); the reed frame or shuttle-beam called *hatya*, used as a batten or lay, worth 7s. to 8s. (Rs. 3½.-4); the treddles and heddles worth 10s. to 12s. (Rs. 5-6); *sandhs* or *kaichis*, rods laid flat between the threads of the warp to keep them from entangling, worth 1s. to 18d. (8-12 as.); the warp beam or *ata* worth 2s. to 3s. (Rs. 1 -1½); three shuttles worth 1s. to 18d. (8-12 as.); and a piece of polished agate or *mogri*, used to rub the gold borders, worth 6s. to £2 (Rs. 3-20).

Silk is sized indoors, the warp silk in a different way from the weft silk. The warp silk is sized on the *tansala*, a pair of upright wooden bars about eight feet high, with, a row of glass or metal rings fixed to each bar through which the yarn is passed, drawn tight, and stiffened by brushing into it a dressing of size. In sizing the weft, the silk is placed on a cage wound on reels, and while on the reel it is moistened with size. The sizer, who in the case of the weft yarn is always a woman, sits with the reel on her left side, and, on her right, a small wheel, to whose axle is firmly fitted a piece of reed bobbin called *tikhadi*. She picks the end of the hank from the reel, fixes it to the bobbin, and by working the wheel with her right hand makes the bobbin spin quickly round winding the silk round itself. As the wheel turns, the worker damps the yarn on the reel with size, and passes the thread through her left fingers so that the size is evenly spread over the whole line. The warp is next made ready. Warping includes three processes, heddle-filling, joining, and arranging. The heddle-filler, according to the pattern of the borders, passes threads through the loops in the cords of the different heddles and between the teeth of the reed or *phani*. When this has been done, the joiner or *sandhnar*, connects the

ends of the warp threads with the heddles, by tying the corresponding threads of the warp to those passed through the heddles and reed by the heddle-filler. The threads are finally arranged, through the whole length of the warp, in accordance with the position the joiner has given them. The silk loom is three to four and a half feet broad and eight to fifteen feet long. At one end sits the weaver with his feet in a large pit, and immediately in front of him is the square cloth beam or *turai* which supports the warp and round which as it is woven, the fibre is rolled. In the weaver's pit are two or four treddles or foot boards, by working which the weaver raises and lowers the warp threads. The two or four treddles are joined by strings with the heddles, two or four frames which hang from the roof across the threads of the warp each with a set of threads, the set of threads of the one heddle holding in their loops the lower, and the set of threads in the other heddle holding in their loops the upper threads of the warp. As the treddles are worked the heddles move the threads of the warp in turn up and down, while, between each movement, the shuttle loaded with the weft yarn is passed across the warp. In front of the heddles and like them hung from the roof, is the reed or *phani*, between whose thin slips of bamboo the warp threads have been passed. The reed is set in a heavy frame, the shuttle beam, which the weaver works to force home the threads of the weft after the shuttle has passed. Behind the heddles horizontal rods are thrust between the upper and lower threads of the warp to keep them from entangling, and ten or twelve feet further, is the warping beam or *ata*, on which the warp is wound. This beam, about four feet long and two inches round, is fastened in the middle to a rope, which is kept tight by being passed round a post or pulley and fastened close to the weaver's side to a peg or to one of the uprights which support the cloth-beam. The weaver from time to time loosens the rope as the cloth is wound round the cloth beam. To weave silk with gold borders, besides the usual large heddles, two sets of smaller heddles are used. The first or large set of heddles governs the motion of the whole of the warp. The second set of four heddles controls the gold thread in the border, and the third, which consists of two heddles, controls certain gold threads which form a tooth or saw-shaped edging to the inner side of the border. The border-edging or third set of heddles are not connected with any treddles. They are simply worked by the weaver's hand and kept in their place by small sand bags hung as a balance. After two movements of the first or main heddles, the second or border heddles are put in motion by the weaver pressing the left treddle. The set of the three rods that support the edging heddles, is lifted by the weaver's hand, and, at every movement of the first or main heddles, one of the rods which support the edging heddles is lowered. When all the are lowered, they are

again raised by the hand and again pressed down one after the other. In the Kamathi's loom even the heddles of the second set which control the gold border threads have no treddles. These heddles are supported by small bags the work-men lifting all of them, and pressing them one after the other, in the way the Sali or Momin weaver moves his third or tooth edging set of heddles. When any silk design is to be worked into the body of the fabric the Kamathi weaver takes a greater number of the large heddles and interposes them between the first or main set and the second or border set. The number of these extra heddles depends on the design. Like the second or border set of heddles they are supported by sand bags and moved up and down by the weaver's hand. The loom for weaving brocade, that is a silk fabric with gold flowers or other ornament woven into the body of the web, is very elaborate, the arrangement of heddles being very intricate and the work of weaving very tedious. The brocade loom, in addition to the three sets of heddles used in weaving a bordered silk fabric, namely the main heddles, the border heddles, and the heddles for the border edging, has a fourth set of heddles, for the ornament that is woven in the body of the web. The first or main set of heddles consisting of two heddles and two treddles comes close on the other side of the reed or *phani*. Then comes the second set of four heddles for the border. These border heddles are supported and balanced by bags of sand and for the heddle frames iron rods are used instead of the wooden rods used in the Sali's loom. This set of heddles controls the gold thread in the border and is worked by the weaver's hand. Then follows the third or border-edging-heddles which are also fastened to iron rods supported by sand bags and are worked by the weaver's hand. Behind, that is further from the weaver than the edging heddles, are the brocade heddles. These are a fringe of loops of white thread which are passed round fibres in the web and rise about six inches above it. The tops of the loops are fastened to a belt of white cords, which, according to the pattern, vary from twenty to forty. These cords are closely strung at each end to a wooden bar about a foot and a half long which are fastened in a position level with the web to two upright poles at the sides. From the middle of this belt of cords, or the heddle back, rises above the centre of the web a bunch of white strings one for each heddle which are held upright by being fastened to a piece of cane which hangs from a cross bar. On the weaver's right of the bunch of upright strings a cord slants from the upright threads or *nakshas* to a cord that passes from side to side, a few inches above the belt of cords or heddle back. On this slanting string are strung a number of loose knotted loops or *pagias* which are fastened to the upright threads. These loops are most difficult to arrange only one or two of the cleverest workers being able to prepare them. When a brocaded

figure begins to be woven the weaver draws certain of the loose loops or *pagias* down the slanting string, and, by drawing the loops down, draws up some of the upright threads or *nakshas*, which in turn raise the cords of the cord belt to which they are fastened, and again the movement of the cords raises the loops which hang from the cords and with the loops raises certain of the fibres of the web. To keep the belt cords raised the weaver inserts between them and the remaining cords of the belt two wooden wedge-shaped hooks which hang from the roof each about eighteen inches to the side of the central threads or *nakshas*. After the required set of fibres has been raised from the rest of the web, with the help of one or two boys, the weaver arranges across the breadth of the web a number of bobbins full of gold thread. The number of bobbins depends on the number of flowers in the breadth of the web. Then the weaver and the boys, at each of the brocade flowers, pass the bobbin of gold threads under the threads of the warps which have been raised above the rest. The wooden hooks are then drawn out and the brocade treddles are allowed to fall to the general level. The main and border heddles are then worked and one fibre of weft is added to the fabric. Then again certain of the brocade pattern loops are drawn down and certain cords in the brocade treddle drawn up and kept up by the wedge-shaped hook. Then under each of the raised fibres in the brocade pattern gold thread is passed, and then again the main and border heddles are worked and a second fibre added to the weft. Brocade weaving is very slow, a man and two boys in a day of nine hours weave only about nine inches of fabric or about one-third of the amount of plain silk which one man can weave. While the brocade heddles are being worked, the first or main heddles are slackened by unfastening them from an iron hook with which they are connected while in motion. When labourers are employed as weavers they are paid 1s. to 2s. 6d. (Rs. ½-1¼) a yard of the fabric woven, which work he performs in a day. The owners of the looms state that their monthly earning average £1 10s. to £2 10s. (Rs. 15 - 25). *Pitambars* and *paithanis* that is men's and women's robes are the only articles woven. *Khans* or bodice pieces are cut out of the robes. Unlike the Yeola women's silks the Poona silks are sometimes brocaded as well as gold bordered. When ready for sale the silks are taken to the local dealers and sold by the weavers on their own account, or, in rare cases when they are made for a dealer, are taken and paid for by him. The dealers sell them locally or send them to Bombay, Pandharpur, Satara, Sholapur, and other trade centres. The demand, especially for the lighter and cheaper varieties, is steadily on the increase. The value of the yearly outturn of silks in Poona is said to average about £25,000 (Rs. 2,50,000).

GOLD AND SILVER THREAD.

Gold and silver thread making is a prosperous industry in Poona city. It is a long established craft, when or by whom started is not known. The forefathers of the present workers are said to have come from the Nizam's country and the fact that their family deity is Bhavani of Tuljapur in the Nizam's country to some extent supports this belief. Most of them are settled in the Shukravar and Aditvar wards of Poona city. Gold and silver thread making supports about 250 families or 800 people. Lad-Sonars, Kokni-Sonars, Khandesh-Sonars, Adher-Sonars and Vaishya-Sonars, Lads proper, Marathas, and Pardeshis. About twenty-five families are Pavtekaris or bar-makers, seventy-eight are Tarkasas or thread-drawers, and seventy to eighty families are Chapadyas or wire-beaters. There are also about 200 Valnars or thread-twisters mostly women. All the Pavtekaris or barmakers are Sonars. Of the thread makers or Tarkasas, the thread-beaters or Chapadyas and the thread-twisters or Valnars most are Lads. The name Lad seems to point to a South Gujarat origin. But according to their own accounts they came to Poona from Aurangabad, Paithan, and Karanje in the Nizam's country. The Lads say their forefathers worshipped Parasnath and Balaji and afterwards, they do not know how long ago, they forsook the Jain faith for the worship of the goddess of Tuljapur. The rest are Kunbis and other classes, including a few Deshasth Brahmans, who took to thread making because it was flourishing. They are a contented and hardworking class. The Pardeshis speak Hindustani at home and the rest Marathi. They live generally in one-storeyed houses, some their own, others hired. The Lads, Pardeshis, and Brahmans live solely on vegetables, the rest may eat flesh. All except the Brahmans are allowed to drink liquor but all are moderate in its use. The different divisions of workers dress like other men, of their own caste, the Brahmans in the broad flat-rimmed Brahman turban; the Marathas in a three-cornered turban; and the Pardeshis in a cap. The shape of coat also differ slightly. As a class they are well-to-do. Their busy time is the Hindu marriage season between November and May. Their rest days are the monthly no-moon days or *amavasyas*, the day after the mid-winter *Sankrant* or tropic in January, five days at *Shimga* or *Holi* in March-April, two days at *Divali* in October-November, and the day after every eclipse. The day after *Nagpanchmi* in August which is called *Shiralshet's* Day, is kept as a holiday and called *Kar*, Except in twisting, gold and silver thread makers get no help from their women nor from their children till they are over twelve. Most of the gold and silver used in making the thread is brought to Poona by Marwar Vani and Shimpi dealers who buy it in Bombay either from European firms or from Marwar Vains near-Khara

Kuva in Mumbadevi ward. The metal must be perfectly pure *Shambharnambri* that is 100 per cent. Even the best metal, according to the thread makers, in the beating and purifying through which it has to pass, before it is lit for their work, loses a twelfth. When ready for use the gold is worth £2 As. to £2 6s. (Rs. 22-23) a *tola*. Besides imported gold, during the last thirty-five years, a certain quantity has been produced locally by extracting with nitric acid the gold from left off gold-embroidered cloth. This has been practiced successfully with silver as well as with gold tissue. The metal obtained from embroidery is called *gotachi* or ball-shaped. The man who started the idea was a Gujarat Vani whose family made a fortune and gave up the industry. At present (1883) three rich Bohoras follow this craft. Four kinds of silver are used *patachi*, or bar silver which comes from Europe and *patachi* which comes from China, *gavthi* or local, and *gotachi* or ball-shaped made in Poona from silver embroidery. Local or *gavthi* silver is already mixed with a small proportion of alloy and is used without any change. Pure English silver has to be mixed either with ten to fifteen-fortieths of ball silver or local silver or with three-fortieths of copper. The silver is brought in ingots or balls and handed to the bar-maker or *pavtekari* who is also the gilder. A bar-maker uses twenty tools: Crucibles or *mushis* of which each establishment has about ten, together worth about 8s. (Rs. 4); a clay fire-trough or *shegd*i costing 1½d. to 3d. (1-2 as.), an iron sieve or *jhara* two to three inches in diameter with an iron handle costing 1½d. (1 a.); three anvils or *airans*, one worth £2 14s. (Rs. 27), a second worth £2 8s. (Rs. 24), and a third worth 14s. (Rs. 7); three hammers or *hatodas* together worth about 4s. (Rs. 2); one iron bar or *otani* hollowed on one side to serve as a mould worth about 8s. (Rs. 4); tongs or *chintas* worth 6d. (4as.); a stone water trough or *hundi* for cooling the heated bar worth 6d. (4 as.); a pair of bellows or *bhata* worth 4s. (Rs. 2); a pair of files or *kanas* worth 1 s. (8 as.); a winch or *lod* always of *babhul* wood worth 14s. (7 as.); about fifteen draw plates or *jantars* each said to be worth 10s. to £5 (Rs. 5-50); three nippers or *vakas* costing 4s. (Rs. 2), 2s. (Rs. 1), and 1s. (8 as.); a chain or *sakhali* worth 2s. 6d. (Rs. 1¼); two scales with weights *kata* and *vajan* worth £1 to £1 10s. (Rs. 10-15); two nails or *bharus* for cleaning draw-plate holes worth 3d. (2 as.) ; a pair of iron pincers or *karlis* worth 6d. (4 as.); two small cages or *phalkis* for winding the wire together worth 1s. (8 as.); and a pair of smaller reels or *asaris* each worth 6d. (4 as.) Under the bar maker's hands the metal passes through two main processes. The gold is purified by boiling it with lime juice in a pipkin and is then heated several times and beaten into gold foil. The silver is melted in a crucible, poured into a mould, and hammered into a short rough bar fifteen to eighteen inches long and one and a half round. It is then

worked into a more perfect shape and the surface roughened with a file. Next *gold* foil is carefully wound round the silver bar so as to completely cover it. The bar is wetted and rolled by the workman up and down his thigh till the gold foil clings to the silver. Then a, thick Soft coir is wound tightly round the bar and it is laid, with the edges of the gold foil underneath, in the clay trough filled with lighted charcoal which is fanned into a white heat. It is next drawn out and hammered on a highly polished four inch steel anvil. Under this heating and hammering which is repeated three times, the bar gradually lengthens but without disturbing the surface of the gold or exposing the silver which never again shows into however fine thread the metal may be drawn. The gilding is completed when the ingot has been beaten eighteen inches long. After the gilding the bar-maker or *pavtekari* turns the bar into wire by dragging it time after time through gradually smaller holes in the drawplate. For this the bar is again heated and pointed. The point is pushed through the largest hole in the drawplate which is set against two wooden uprights fixed in the ground. When it shows through the drawplate the point is caught in a pair of strong pincers whose handles are joined by a chain and ring to one of the spokes of a winch. This winch has a drum, a foot in diameter and three feet long, fixed inside sockets. At right angles to the drum it has three arms, each two and a half feet long, which work in a hole, about six feet by three, and three deep. When the end of the bar is firmly grasped by the pincers, a workman, laying all his weight on one of the arms of the winch, draws it down and drags the point of the bar through the hole in the drawplate. As it passes through the drawplates both the bar and the hole of the plate are smeared with a composition of beeswax and other substances. When the bar has been drawn through the plate, the point is again hammered, and, in the same way, is dragged through a smaller hole. This dragging is repeated about twenty times. The bar, which has now become a wire about six yards long for each *tola* of metal, is cut into lengths of fifty yards and made over to the thread-maker or *tarkas*. The *pavtekari*s or bar-makers for their bar-making and wire-drawing are paid 4s. (Rs. 2) for every *passa* or one pound (40 *tolas*) silver bar. Of the 4s. (Rs. 2) 1s. (8 as.) is paid to two labourers at 6d. (4 as.) a *passa* or one pound silver bar, 6d. (4 as.) goes in coal, and 2s. 6d. (Rs. 1¼) are left as the bar maker's earnings for two days. Allowing for breaks in the work and for holidays the bar maker's average monthly income varies from £1 4s. to £1 14s. (Rs.12-17).

From the bar maker the wire goes to the thread maker the *tanaya* or *tarkas* who uses fourteen tools. These are: The *palda*, a wooden drum-shaped reel worth 4s. (Rs.2); the *paldi* a smaller drum also made of

wood worth 1s. (8 as.); the *khodsa* a stool on which the drums are fixed worth 2s. 6d. (Re. 1¼); a dozen drawplates or *jantars* varying in value from 1s. to 10s. (Rs. ½-5); the *thesni* a small sharp pointed hammer used for stopping old drawplate holes worth 6d. (4 as.); a small anvil or *airan* worth 3d. (2 as.); a pair of pincers or *sanasi* worth 4½d. (3 as.); a file or *kanas* worth 9d. (6 as.); a small hammer or *hatoda* worth 6d. (4 as.); a nail or *chaurasi* for enlarging the drawplate holes worth 6d. (4 as.); a sharpening stone or *kalipathri* worth 3d. (2 as.); a crank or *makoda* to turn the drums worth 1½d. (1 a.); a reel axis or *bhongli* worth 1½d. (1 a.); and a small bobbing or *chakkar*. To draw the wire into a thread the *palda* that is the larger reel or drum seven or eight inches in diameter, and the smaller three inch reel or *paldi* are supported horizontally on two upright pivots about twenty inches apart. Between the big drum and the little drum a small drawplate is fixed to two upright iron rods. This small drawplate is a piece of an old sword blade pierced with holes of different sizes. The wire is wound round the small reel or *paldi* and its point is sharpened by two bits of China, till it is fine enough to pass through the largest of the drawplate holes. When it shows on the other side of the plate, the point of the wire is caught in small pincers and pulled through. The end of the wire is then fixed on the larger reel or *palda* which is turned by a metal handle, and draws the wire through the hole then the whole is wound off the small reel. The wire is then wound back on the small reel, and drawn through the next largest hole. This drawing and winding is repeated till the wire has been drawn to the required fineness. To draw a *tola* of metal 250 yards, the wire has to pass through at least sixty holes. Elaborate as this is so great is the workman's skill and delicacy, that he is said to be able to make 900 yards of thread from one *tola* of metal. A thread maker *tanaya* or *tarkcas* is paid £2 10s. (Rs. 25) for every 100 *tolas* of metal he draws. His average monthly income ranges from £2 to £2 10s. (Rs. 20-25). Some of the thread makers employ lads as apprentices, who at first work for nothing and are then paid 2s. to 12s. (Rs. 1-6) a month, according to their work. The thread is now handed to the flattener or *chapadya* who uses seven tools, The *masipati* a small board about a foot square, with ten upright nails to serve as bobbin axles; the anvil or *airan* about two inches square and the hammer or *hatoda* two inches square kept highly polished by emery, together worth about 10s. (Rs. 5); hones or *opanis* of lac and emery powder worth £2 to £7 (Rs. 10-70) [The workers say pearls and coral are mixed with the emery but this is doubtful.]; the *khodsa* a buried block of *babhul* wood, on which the anvil is fixed worth 4s. (Rs. 2); the *chippa* a piece of leather with small slits for the thread to pass through; the *ghodi* or *ranakhame* a hook fixed in the ground to guide the flattened thread,

worth 6d. (4 as.); and the *asari* a small reel, worth 3d. (2 as.). In flattening the thread, ten full bobbins are set on the *masepati* or board, and the threads are gathered together and passed through the slits of a piece of leather or *chippa* which is placed in front of the stand and drawn across a highly polished steel anvil, fixed in a block of *babhul* wood very little raised above the level of the ground. In flattening the thread the workman firmly grasps his hammer handle between the thumb and the forefinger, and, with his left hand, draws the threads over the polished steel, and begins to beat. The threads are passed steadily over the anvil and the hammer strokes fall at the rate of sixty to a hundred in the minute, and with such regularity that no particle of the thread is left unbeaten. As they are flattened the threads are drawn away by the flattener's left hand, and when stretched to arm's length, are caught under some conveniently curved article such as a broken cup handle or a brass hook fixed in the ground, and a fresh grip is taken close to the anvil. When all the threads have been flattened, they are carefully separated, wound round a reel and sent to the twister or *valnar*. The thread flattener or *chapadya* is paid £1 10s. to £2 (Rs. 15-20) for beating 100 *tolas* of thread. If during the busy season he employs a labourer he pays him £1 8s. to £1 16s. (Rs. 14-18) the 100 *tolas*. The twister or *valnar*, who is generally a woman, is the last of the work people through whose hands the thread passes. She uses three tools. A hook or bangle called *akada* of a nominal value; two spindles or *chatis* worth 1½d. to 6d. (1-4 as.), sometimes made by fixing a round piece of broken China to a nail; and a wooden cylinder or *gaj* with nails fixed at given distances worth 6d. (4 as.). Contrary to the practice in the other branches of gold-thread making the twister or *valnar* has to provide part of the material she works up. What she has to buy is the silk-thread which is twisted with the flattened gold-thread. The silk used in making gold-thread is twisted and dyed by a distinct set of workers called *dhurevalas*, of whom there are twenty to twenty-five establishments at Poona, including sixty to eighty workers. They are either Marathas from Paithan and Burhanpur or they are Pardeshis from Delhi and Agra. They are believed to have come to Poona three to four generations ago. They speak Marathi or Hindustani and live in one-storeyed houses of which five per cent are their own and the rest are hired. They generally live on vegetable food though they are allowed to eat mutton and fish and to drink liquor. They dress in a three-cornered turban, a long coat reaching to the knees, a scarf round the loins, and a second scarf round the shoulders. As a class they are fairly off. Their busy season, working hours, and holidays are the same as those of the bar makers and others employed in making gold thread. They use silk of three kinds, *sim*, *lankin*, and *banak*. All are brought from Bombay, at and about 1s. to

10d. the ounce (5-6 *tolas* the rupee). The silk is the property not of the thread-makers but of Marwar and Shimpi dealers who pay them by the outturn. A *dhurevala* or twister and dyer of the silk which is used in making gold and silver thread wants three tools for the twisting and no tools for the dyeing. The appliances for twisting the silk include half a dozen bamboo cages or *phalkas* each worth 3d. to 6d. (2-4 *as.*); about thirty small reels or *asaris* each worth 3d. to 6d. (2-4 *as.*); and two or three spindles each worth 1½d. to 3d. (1-2 *as.*). The silk twister places a skein of silk on each of five different cages or *phalkas*, and from them winds the silk on fifteen different reels or *asaris*. These fifteen reels are then arranged in a semicircle all facing the same way. The twister draws a thread from each reel, and sitting facing the point of the reels, fastens the threads to a spindle, and rolling the spindle sharply along his thigh, twists a yard or so, winds the twisted thread round the bar of the spindle, gives the Spindle another smart roll along his thigh, and twists another yard of thread. The silk is sometimes twisted out of doors. In out of doors twisting, two couples of uprights are driven into the ground the couples twenty-five to thirty feet apart, and the uprights in each couple four to six feet high and ten feet apart. A horizontal bamboo is fastened across between each pair of uprights and on the upper side of each of the bamboos pairs of pegs are fastened close together at the bamboo and gradually separating in a V shape. In out of door silk twisting the fifteen fibres from the fifteen reels pass through the hollow at the foot of the V. When the silk twister is as much as twenty-five to thirty feet from the reels he can twist a much longer piece of thread at a time that he can twist when he stands close to the reels. The twister is paid 1½d. (1 *a.*) for each *lad* of silk twist that is equal to 7½d. an ounce (8 *tolas* the rupee). When the gold thread twister or *valnar* gets a supply of the proper twister silk he winds it off the reel on to a spindle. One end of the silk thread is then passed through a bangle or steel ring fastened to the ceiling of her house, drawn down, and tied to a second spindle. The flattened gold thread is then unwound from the reel or *asari* and dropped in a loose heap on the ground near the twister. The twister sits on a high stool or chair, and, fastening the ends the gold and the silk thread together, rolls the spindle sharply along her thigh and gives it so rapid a whirl that it twists together two or three feet of the gold thread and the silk always keeping the gold on the surface. When the spindle stops the workman winds the finished gold thread round the rod of the spindle, draws down a fresh yard or two of the silk thread, and gives the spindle another whirl by sharply rolling it again along her thigh. The drawing down the silk, whirling the spindle, and twisting together the gold and the silk are repeated till the whole quantity is completed. The finished gold thread is then wound into hanks and

skeins by passing it round two nails fixed to a rod or *gaj*. The *valnar* or twister is paid 1 s. an ounce (5 *tolas* the rupee). Poona gold thread chiefly used locally in ornamenting turban ends and the borders and fringes of robes and dining clothes.

COTTON GOODS.

Cotton weaving is carried on in thirty-seven towns in the district; Jasvad, Kavtha, Pabal, Baramati, Indapur, Pimpalvadi, Junnar, and Utur, are known for *lugdis* or women's robes; Baramati, Kavtha, and Jasvad for silk-bordered *dhotis* or men's waistcloths, and *uparnis* or silk-bordered shouldercloths; and Indapur, Palasdev, Lasurna, Nimbgavketki, and Kalas are known for *khadi* or coarse cloth. Of these the only important centre of cotton cloth handloom weaving is Poona city. Poona city has 400 to 500 cotton handlooms, of which about 450 belong to Hindus, 300 of them Koshtis and 150 Salis, and the remaining fifty Musalmans. Most Hindus weave women's robes or *sadis* and most Musalmans weave turbans. Cotton handloom weavers are chiefly found in the Somvar, Vetar, Bhavani, Raste, and Shukravar wards. Besides in these wards one or two cotton looms are found in almost every part of the city. Except two families who have come from Madras, the Hindu weavers are said to have come about three generations ago from Paithan, Yeola, Sholapur, Indapur, and Narayan Peth in the Nizam's country. The Musalman weavers came to Poona only four or five years ago from Malegaon in Nasik where they form a large colony. [Compare the Nasik Statistical Account, Bombay Gazetteer, XVI. 167.] Except the two Madras families, whose home speech is Telugu, the Hindu weavers of cotton goods speak Marathi, and the Musalman weavers speak Hindustani. All live in one or two storeyed houses, fifteen to twenty of which belong to the occupants, and the rest are hired. The Hindus eat flesh and drink liquor and are a temperate class. The Musalmans seldom eat flesh except on holidays. Many of them drink liquor but seldom to excess. Those Hindu weavers who belong to the Koshti and Sali castes wear either the Deccan Brahman or the three-cornered Maratha turban, a jacket, a long coat, a scarf round the loins and another over the shoulders. The Musalmans wear a cap except a few who have taken to the Maratha turban, a jacket, a long coat, and trousers. The robes woven by the Hindus and the turbans woven by the Musalmans are generally coars and cheap. The Hindus work from seven to eleven and again from one to sunset; the Musalmans work almost the whole day except a short time for their meals which they generally cook in the same shed or room in which they weave. The chief demand for their wares is during the marriage season that is between November and May. The articles they

weave are intended for everyday use although they are used as marriage presents by Kunbis and other middle and low class Hindus. Hindu cotton weavers stop work on the last or no-moon day of every lunar month, on *Nagpanchmi* Day in September, on *Dasara* Day in October, on the day after the great *Sankrant* in January, during three days of *Shimga*, during four days at *Muharram* time, and on the day after every eclipse. The Musalmans stop work only on three *Muharram* days in *Ramzan* and on the *Bakar-id*. Both Hindu and Musalman cotton weavers get great help from their women, in reeling, dyeing, warping, and sizing. Some Hindu women even weave. With all this help cotton-weavers barely make a living. The articles they turn out are very inferior and are worn only by the poorer classes. The average daily earnings of a cotton weaver's family are said to range from 6d. to 7½d. (4-5 as.), and during the rains they are often short of work. All the yarn used in the Poona handlooms is steam-made partly from the Bombay mills and partly from Europe. The yarns generally used are twenties and thirties. To buy the yarn most weavers have to borrow at two per cent a month. The tools and appliances of a Hindu cotton weaver resemble those of the local silk weavers of which an account has already been given. The Musalman weaver is satisfied with cheaper and simpler appliances. He has a smaller loom and has not more than seven tools. The shuttle-beam *hatya*, in which the reed or *phani* is fitted worth 6d. (4 as.), two bars or *athuyas* to keep the warp stretched worth 6d. (4 as.), a beam or *tur* round which the woven fabric is wound worth 1s. (8 as.), a pair of shuttles or *dhotas* worth 1s. (8 as.), a large bamboo cage or *phalka* worth 6d. (4 as.), a reed or *phalki* worth 3d. (2 as.) and a small wheel or *rahat* for sizing the weft yarn worth 8s. (Rs. 4). The foreign and Bombay yarn undergoes eight processes in being turned into robes or *sadis*. It is steeped in water and placed on the bamboo cage or *phalka*. It is changed from this cage to the reel or *asari* by a woman of the weaver's family who holds the end of the central rod of the cage in her toes, and with her right hand, drawing off the yarn from the skein, winds it on the smaller reel, which she holds in her left hand and whirls round in a small cup of smooth cocoanut shell. To make the skeins of a convenient size, the yarn is next wound off the reel or *asari*, on to a small conical reel called *charki*. The yarn is then transferred to the *rahat* or wheel to be twisted and wound round bobbins or *kundis*. It is next worked by winding it, two threads at a time, in and out among the rows of bamboo rods about four feet apart. It is then opened on two bamboos, stretched tight between two posts and sized by a large brush dipped in rice paste. If it wants colouring it is dyed before it is sized. The weavers themselves dye the yarn either with German aniline dyes, or they have the yarn steeped first in the indigo vats of the local indigo dyers and

then in safflower dye to make them green, a colour which quickly fades. The general practice is to buy dyed yarn. After the yarn is dyed and sized or sized without dyeing, it goes to the heddle-filler and joiner who is always the same man as the weaver. He joins the warp threads with the threads of an old used warp which he purposely keeps to save the trouble of passing threads in each case through the loops of the heddle, then through the bamboo slips of the reeds or *pheni*, finally tying them to the *turai* or warp beam. After joining the warp threads, the weaver has to stretch the whole of the warp and to see if any of the strands of the warp are wrongly joined or are entangled. When all is ready the warp is stretched and the rope tied to its farthest end, passed round an upright, and brought back to the place where the weaver sits. It is there tied either to a peg fixed in the floor to the right of the weaver or to one of the uprights which support the cloth beam or *turai*. When the weaver has provided himself with a pair of shuttles and a small basket full of loaded bobbins, he sits behind the cloth beam, puts his legs in, the pit below the loom and with one foot on each of the treddles begins to weave. He passes the shuttle with the loaded bobbins between the two sets of the warp threads which are by this time separated by heddles worked by the treddles under the weaver's feet. For the border a separate set of heddles hanging from the roof are balanced by sand bags and are worked by the hand. The Musalman turban loom, except that it is not more than eighteen inches broad and has no heddles, is the same as the robe loom. The Poona cotton weavers take their robes and turbans to the local Shimpi dealers of whom about fifty have shops in Budhavar ward. The robes fetch 4s. to £1 (Rs. 2-10) and the turbans 3s. to 10s. (Rs. 1½-5). The local demand especially during the marriage season will probably keep up handloom cotton weaving for some time. Still it seems probable that, in a city where the price of grain and the cost of living is high compared with most parts of the Deccan, the handloom weavers of robes will be driven out of a living by steam-made fabrics. Handloom turban weaving will probably last longer, as, at far, it has been free from machine competition.

GLASS BANGLES.

Glass bangles are made in the village of Shivapur on the Satara road about seven miles south, of Poona by a settlement of Lingayats who are called Kacharis or glass makers. At present (1883) four establishments employ twenty-five to thirty men. They say that they came to this district from villages near Sholapur five or six generations ago, that they used to marry with other Lingayats, but that since they have taken to bangle-making they form a separate caste marrying

among themselves only. They speak Marathi at home, live in their own one-storeyed houses, and never touch animal food. They say that they dress like Brahmans, but when at work they wear only a dirty waistcloth and a rag round the head. They work from nine in the morning to nine at night, and stop work on all Mondays, on the great *Sankrant* in January, on *Mahashivratra* in February, for four days during *Shimga* in March-April, on *Nagpanchmi* in August, on *Dasara* in October, and during five days of *Divali* in October-November. Their women and children help in sorting broken pieces of Chinese glass bangles which the men melt and work into new bangles. They buy these broken bangles from the *Kanch bangdi phutanevalas* that is glass bangle collectors, Marwar Vanis of whom there are fifteen to twenty shops in the Bhavani and Vetar wards in Poona. They gather the glass bangles by going from house to house selling parched gram in exchange for its weight in broken bangles which the children of the house carefully gather and keep. Kasars or dealers in bangles, also ask for and gather broken bangles at any houses they may visit to put new ones round women's wrists. They sell the broken pieces to Kacharis. The current price of the raw materials is $1\frac{1}{2}d.$ (1 *a.*) the pound. Though so little money is wanted the Kacharis generally borrow it in Poona at one to two per cent a month. The glass is sometimes supplied by Kasars or bangle dealers who pay the Kacharis $2\frac{1}{2}d.$ to $3d.$ a pound (3-4 *as.* a *sher*) to work it up. Bound balls of country made glass used to be received at Poona from Gutur in the Nizam's country, but for the last eight or ten years no glass has been brought from Gutur as broken bangles furnish as much material as the trade requires. A Kachari's appliances are simple and cheap. Half a dozen bamboo baskets smeared with cowdung serve to store the sorted pieces of glass; six thin two feet long iron bars pointed at one end at $\frac{3}{4}d.$ ($\frac{1}{2}$ *a.*) each; six home-made clay crucibles at a nominal cost. The mould called *matra* or *sacha* an iron bar with a conical clay top worth about $3d.$ (2 *as.*). One end of this iron bar is supported by an upright peg near the fire-place or kiln, the peg having a looped piece of iron on the top to let the bar move round its own axis and the other end rest on a slightly grooved stone. Half a dozen six inch long flat iron paper-cutter shaped blades called *pattas* each worth about $3d.$ (2 *as.*). The *akadi*, a wooden handled iron rod slightly bent at the point worth about $3d.$ (2 *as.*). Six to eight six inch nails or *chats* with handles each worth about $1\frac{1}{2}d.$ (1 *a.*) Six hammers worth $9d.$ (6 *as.*) each. Six flowerpot-shaped earthen pots or *Kundis* each worth $\frac{3}{4}d.$ ($\frac{1}{2}$ *a.*) A scale with weights or stones and bamboo basket pans worth $3d.$ (2 *as.*). Half a dozen long handled hemispherical iron spoons or *palis* each worth $2\frac{1}{2}d.$ ($1\frac{1}{2}$ *a.*). A Kachari's kiln or fire-place is also kept in a separate building or in a small wing of the building in which the

workmen live. A separate bangle-furnace consists of a shed, about twenty feet by twenty-five and ten high, with brick walls with two doors on the south and on the west, and six windows, two each on the north, the south, and the west. The east wall has neither door nor window. The roof is tiled, the central beam being about twenty feet from the floor. Nearly in the centre of the building is the furnace, a round pit three to four feet deep, with a dome-shaped clay top and arched windows each about four inches by six and a hole at the top of the dome provided with a clay lid. Inside the dome is a raised platform on which rest the crucibles or clay smelting pots each opposite its own window. In the space between each pair of windows and a little way from the kiln are six uprights which together with the cross stick form a six-cornered bower over which two to three feet of fresh cut branches are heaped to dry. In front of each of the kiln windows a pair of thick rag screens are hung on the cross sticks of the bower to shade the workmen from the fire. In front of these shades sit the half dozen workmen each with his tools and a basket of broken bangles near him. When the crucibles filled with glass are set on the platform inside the dome of the kiln, the fire is kindled by bringing fuel into the pit through an under-ground passage. At the end of about an hour the glass melts and each of the workmen sits opposite one of the windows. He stirs the half fluid glass with the bent pointed iron rod or *akadi* to see if it is uniformly melted. When it is properly melted the workman passes into the molten glass a second sharp pointed iron rod and with it picks out a drop of fluid glass. On taking the drop of glass out of the kiln with a jerk he makes the rod spin round and the spinning motion turns the glass drop into a globe. A sharp blow to the iron rod from the *patta* or iron blade shivers the globe and turns it into a ring on the point at the bar. Repeated blows with the blade on the bar by shaking in widen the ring into a long loop. As soon as the ring is big enough it is dropped over the conical clay point of the mould or *sacha* and fitted into it with the help of the blade, the left hand all the time keeping the mould spinning in the grooved stone. All this is done with surprising cleverness and speed, less than half a minute serving to turn the glass drop into a finished bangle. If from any delay the glass cools and hardens out of shape, the mould or *sacha* is held in the kiln flames till the glass is softened and can be worked into the proper shape. The formed bangle is dropped on the floor, the sharp end of the iron bar is heated and hammered straight, and second glass drop is brought out at the bar point, whirled into globe, struck into a ring, widened by vibration, and finished off the turning mould point. The Shivapur Kacharis make three kinds of bangles *bangdi*, *gol*, and *Kaul* or *karla*, the *bangdi* is slightly conical, the *gol* globular, and the *karla* conical with a notched surface. Finger rings are made in the same way

as bangles. The bangles are in great demand among the poorer classes of Hindu women, all the rings are bought by girls as toys who sometimes wear the round their own fingers and sometimes put them round their dolls wrists. The Kacharis carry their bangles and rings to Poona. In the glass is supplied by a Kasar dealer the Kachari is paid 6s. (Rs.3) for thirty-two pounds. If the glass is the Kachari's own he gets about 10s. (Rs. 5) for the *man* of thirty-two pounds. In a day of about twelve hours' work a good bangle-maker can turn out four to five pounds of glass bangles. Deducting the cost of the glass and the fuel, this price represents daily wage of 6d. to 7½d. (4-5 as.). The Kacharis industry is declining under the competition of Chinese glass bangles.

COMBS.

Savai Madhavrav Peshwa (1790 -1795) the tender-hearted sensitive youth, whom Nana Fadnavis' restraints drove to suicide, had scruples about Brahman women using metal hair combs. It was against the sacred books; hair combs should be of ivory not of metal. To supply the new demand for ivory combs one Audutrav Dhandarpalkar came from Nasik and opened the first ivory comb factory in Poona city. His example was followed by Abaji Ava of the carpenter caste. The family of Audutrao cannot (1883) be traced and is said to have died out. The original carpenters have also left Poona and again taken to wood-cutting. The present ivory comb makers are the descendants of the Kunbi servants of the original workers. They number about fifteen and keep five workshops opposite the temple of Ganpati in Kasba ward. They are a quiet people, speak Marathi, live in their own one-storeyed houses, occasionally eat flesh, and dress like ordinary local Kunbi Marathas. Comb making is easy to learn. Many Kunbis would have taken to the craft if it had offered a fair chance of making a living, but for many years, owing to the competition of cheap foreign bone combs, the industry has been depressed. Within the last ten years four shops have been closed and those who are left though above want are poor. The present small ivory-comb industry will probably long continue. Brahman and other high caste Hindu women think bone combs impure, and three ivory combs always form part of the *vayan* or bride's outfit.

Comb-makers work from seven to eleven and from two to sunset. They stop work on *Kar* that is the day following *Mahasankrant* in January, and on *Nagpanchmi* in August. Their women and children give them no help. During the marriage season, between October and May, the demand is brisk, and sometimes a servant or two are employed to

help in doing the rougher parts of the work. The servant is paid 8s. to 14s. (Rs. 4-7) a month according to the nature and quality of his work. The average monthly income of a comb-maker varies from £1 to £1 10s. (Rs. 10-15). As ivory is very costly ranging from about 8s. to about 11s. the pound (Rs. 150-200 the 38 lbs. *man*) the money required for buying it has to be borrowed. The usual rate of interest paid is one per cent a month. The advances are generally made by a moneylender named Jipa Marwari in whose hands the whole industry practically is. In addition to interest, he charges 1¼ to 1½ per cent as commission on the ivory he brings from Bombay. The workmen have to sell the articles they make on their own account and to pay the standing balance including interest and commission to the Marwari moneylender. What they are able to keep back is just sufficient to maintain themselves and their families. All are indebted to the Marwari. The appliances of a comb-maker are similar to those of an ordinary carpenter only a little finer. Each shop requires five to six saws of different sizes worth 9d. to 1s. (6-8 *as.*); half a dozen files worth 6d. to 7½d. (4-5 *as.*) ; four or five borers worth 3d. (2 *as.*) each; half a dozen vices each worth 10s. to £1 10s. (Rs. 5-15); a *vakas* or adze worth 2s. (Re. 1); a *khatavne* worth 1½d. (1 *a.*); and a compass worth 6d. (4 *as.*).

When the ivory is brought from the Marwari's shop, after he has weighed it and entered the price in his account book, it is steeped in water for two or three days. It is then cut into pieces of the required size and sawn through, keeping it vertical by holding it in the vice. It is then filed, rubbed and polished. Sometimes the ends and sides are decorated with carvings and the plain surface is broken by tracing on it a few curved and straight lines. Combs for the use of women are rectangular and have a double set of teeth, while men's combs are crescent-shaped and have only one set of teeth. The small pieces of ivory left over in cutting out pieces for combs are used in making dice. The price of a comb ranges from 6d. to 2s. (Rs. ¼ - 2) according to the size thickness and workmanship of each. The combs and dice are sold in the workshops by the workers on their own account. Their only customers are high class Hindus. Other classes use either wood combs or foreign horse combs.

CLAY FIGURES.

Among European residents and travellers a favourite product of Poona are clay figures six to eighteen inches high, with in their appearance colour and dress, all that is characteristic of the different castes and classes of Western India. These figures are known as Poona figures

and are made nowhere but in Poona. As present (1884) there are only eight figure-makers in Poona city. The most famous makers of Poona figures have been Bapu Supekar a Jingar and Kaluram Gavandi a bricklayer. These two men were contemporaries and lived about forty years ago. The present workers belong to the Goldsmith, Jingar, and Maratha caste. They speak Marathi, and generally live on vegetable food, but they eat flesh on holidays and special feast days. The goldsmiths dress like Brahmans, in a rounded turban, jacket, long coat, waistcloth, and shoulder-scarf; the rest dress like Kunbis with three-cornered turban, long coat, and waist and shouldercloth. Besides the eight workers who make the highly finished Poona figures, twenty to twenty-five Jingars, and about two hundred Kumbhars make rough baked clay figures costing about $4\frac{1}{2}d$ (3 *as.*) the dozen. The Jingars and Kumbhars mould or shape these rough figures a little before the *Ganapati* holidays in August and the *Divali* holidays in October-November, when especially at *Divali*, they are in great demand. Shalivahan, the legendary founder of the *Shakera*, whose initial date is A.D. 78, is said to have led an army of clay figures from the Deccan north across the Narbada and defeated Vikramaditya the chief of Malwa. In honour of this triumph for the Deccan during *Divali* the children of lower class Hindus build small clay castles in front of their houses, and round them arrange an army of clay figures footmen horsemen and gunners. It is the opinion of many well informed people in Poona that this practice was introduced by Shivaji (1627-1680) with the object of fostering a warlike spirit among Maratha children.

The Poona figure-makers are perhaps the only workers in Poona who show artistic skill. The materials used by the Poona figure-workers are: White clay or *shadu* generally bought from Mhars at $3d.$ a head-load (8 for Re. 1); Bombay *khadu*, a chalky clay which is bought from Poona Bohoras at sixteen pounds the shilling, torn country paper called *junarikagad* costing about $2\frac{1}{2}d.$ a pound (10 lbs. the rupee); finely ginned cotton worth a shilling the pound; orpiment or *hartal*, the yellow sulphide of arsenic worth a shilling the pound; ochre or *songeru*, *kav*, worth $1\frac{1}{2}d.$ (1 *a.*) the pound; cinnabar or *hingul* red iodide of mercury worth two shillings the pound; verdigris or *jangal* green arseniate of copper worth its own weight in copper coin; white zinc or *sapheda* oxide of zinc worth a shilling the pound; indigo or *nil* worth its own weight in copper coin; English carmine worth its own weight in silver; lamp black collected at home; *gomutra pevdi* a yellow pigment obtained by steeping the powdered flowers of the *Butea frondosa palas* in cow's urine, worth its own weight in silver; glue or *siras*, worth $6d.$ the pound; isinglass worth a shilling a packet bought from European shops; lac bought from Bohoras at $9d.$ to $1s.$ (6-8 *as.*) the pound;

copal varnish worth 3s. to 4s. the pound; blue vitriol, sulphate of copper, and rice flour. These materials are so cheap, and in most cases are required in such small quantities that, unless one customer wants a large number of figures, when some advance is required, even the poorest workers buy them on their own account. A figure-maker's tools and appliances are few and simple. There are five scoopers or gouges, namely *korane* which is flat and slanting at the end, *nakhurde* nail-shaped, *korni* spear-head shaped, *kesache korne* flat and ridged on one side making hair-like lines in the clay, and *dolyache korne* grooved on one side. Besides the gouges, they require a pair of pincers or *chimtas* worth a shilling; a drill or *samta* worth 6d. (4 as.); half a dozen files or *kanas* worth together 2s. (Re. 1); and a pair of scissors worth a shilling. The brushes are made of the tails of the Indian squirrel which cost about $\frac{3}{4}$ d. ($\frac{1}{2}$ a.) the piece and are bought from the wandering druggists called Vaidus or Baidus. The *shadu* or white clay, the *khadu* or chalky clay, and the torn paper are separately steeped in cold water for one day, apparently passed through a sieve though this the workmen deny, and pounded together with the ginned cotton. The proportion of each of these articles is not uniform, each workman using his own discretion on each occasion. When the clay is so thoroughly mixed as to lose all grit or grain it is ready for use. The workman shapes the head putting in a small peg to prop the neck. The arms are next shaped and propped on pegs at the shoulder joints. The trunk and legs are last shaped with two pegs passing through the soles if the figure is standing and one peg passing below the end of the backbone if the figure is sitting. These separate pieces are joined and the figure is left to dry two to six days in the sun. When dry the clay is painted a flesh colour and the eyebrows and moustache, and, if the figure is a Hindu, the brow marks are painted. The colours are made by washing the mineral pigments several times over and mixing them thoroughly with *ghee*-paste for a dark and with isinglass for a light-tint. When the paint dries the workman dresses the figure by gluing on pieces of different fabrics. Finally the figure is fixed into a stand brought from the local turner either with the help of the peg passing below the feet, or, if sitting, by the peg which passes below the back. Of the Poona figures, which include almost all castes and classes, perhaps the most interesting and characteristic are: A fully equipped elephant with a native prince and his attendants in the car or *hauda*; groups showing how Hindus cook and dine; a scene at a public well; a dancing party; a Hindu spinner, weaver, and goldsmith at work; a European gentleman carried in a palanquin; a Koli, or other highwayman waylaying and extorting money from a Marwari trader; a tiger-shooting scene; a prince or princess attacked by a tiger; a native fruitseller's shop; a native woman carrying water; a milkmaid; a

Garodi or juggler with tame monkeys, snakes, goat, and mongooses; a Darweshi with a tame bear; a Gosavi or Hindu ascetic; a Fakir or Musalman beggar; a Brahman woman worshipping the sacred *tulsi* plant *Ocimum sanctum*; an astrologer telling fortunes; a Vaidu or wandering quack; a Parsi man and woman; a waterman with his bullock; a camel driver; a messenger; and the cholera or *jarimari* worshipper. The prices of these figures range from 18s. (Rs. 9) a dozen to 10s. (Rs. 5) each according to size and make. Among the figures required for the *tabut* or Muharram bier festival the most common are a dancing girl; a Maratha horseman; a chief on an elephant; a pair of Brahman Maratha officers on horseback; a pair of gymnasts; a prince on an elephant attacked by a tiger; a Maratha officer on horseback helping a damsel to mount his horse; and a prince on foot struggling with a tiger. The figures required for the Muharram biers are the largest made in Poona ranging from two to three feet high and costing £2 to £50 (Rs. 20-500). The figures intended for sale among European and Parsi customers ordinarily range from six inches to eighteen inches in height and from 1s. (8 as.) to £1 (Rs. 10) in price. The average monthly income of the Poona figure-makers is said to vary from £2 to £2 10s. (Rs. 20-25). The figures are either made to order or are sold at the workmen's house. The larger figures required for Muharram biers are bought by Hindus. The demand for Muharram figures is not great as one figure lasts for years. The chief demand is from Europeans and from the Parsi owners of Bombay curiosity shops.

PAPER.

Paper-making is said to have been brought to Poona from Junnar four or five generations ago. The leader of the movement is remembered as Allibhai, a Musalman, as are all the workers in Poona. At present (1883) Kagdipura or the papermen's quarter a part of the Kasba ward has seven work-places or paper factories. According to the paper-workers the site on which they built their houses and factories was given free of charge by the Peshwa to encourage the craft. Of forty factories only eight remain, seven in Poona and one at Bhamburda just across the Mutha from Kagdipura. The paper-makers know Marathi but speak Hindustani at home. They can afford to eat flesh only on holidays, and drink liquor but not to excess. They live in one-storeyed houses of their own. The men dress like Kunbis in a three-cornered turban, a long coat, a scarf round the loins, and one round the shoulders. Their women wear a robe and bodice like Kunbi women. Their paper is strong and lasting but has no special peculiarity or excellence. They earn barely enough to live on and are constantly borrowing. They work from seven to twelve and from one to sunset.

They stop work on Fridays, *Bakar-Ids*, five days of *Muharram*, one of *Shabebarat*, and three days on the death of a member of the community. Their women and their children over eight help in sorting waste paper. Unlike the practice at Nasik and Junnar where rags are used, at Poona paper is made solely from waste paper bought from Government offices at £1 to £2 & *palla*, of 240 lbs. As the waste paper is generally bought at auction sales its price varies considerably. The £2 to £5 (Rs. 20-50) required for buying the raw material has to be borrowed from Marwari moneylenders at two or three per cent a month. The Poona paper-makers have stopped using ropes and gunny bags as they require more time and labour to pound and bleach. Six chief tools and appliances are used: The *dhegi* or great hammer, a long heavy beam poised on a central fulcrum worked in a long pit two or three feet deep. The head of the hammer is a heavy block of wood fixed at right angles to one end of the main beam, with its face strengthened by four thick polished steel plates. On the upper surface of the other end of the main beam two or three steps are cut, and the hammer is worked by three or four men together forcing down the beam and letting it rise by alternately stepping on the beam and on the edge of the hole. The cost of the *dhegi* including the cost of the paved pit or hole in which it is worked, is calculated at £5 to £6 (Rs. 50-60). Though every one of the Poona paper factories has a *dhegi*, they have not been in use for ten or twelve years as waste paper does not require heavy hammering. A rectangular teakwood frame or *sacha* two and a half feet by two, with eight cross bars; it costs 6s. (Rs. 3) and is used in fishing out films of paper from the cistern. A screen or *chhapri* made of the stalks of the white conical headed amaranth *Amaranthus globulus*, on which the film of paper rests, when the frame is brought out of the cistern and the water allowed to pass through it, costs 2s. to 4s. (Rs. 1-2). A soft date palm brush or *kuncha*, costing 1½d. to 3d. (1-2 as.), is used in spreading the sheets against the cemented walls of the room. This brush is not always required as the paper is generally spread in the sun on old scarves or rags. The polishing stones a piece of agate worth 2s. to 4s. (Rs. 1-2). Large shells *Cypraea tigris*, which are in use instead of polishing stones, cost 1s. to 1s. 6d. (8-12 as.) a dozen; smooth teakwood boards each about two feet by three, costing 2s. to 2s. 6d. (Rs. 1-1¼), are required to lay the paper on while it is being rubbed with the polishing stone or shell. The process of making paper from waste paper is not so elaborate as the process of making it from sacking. In Poona the paper is torn to pieces, sorted according to colour, moistened with water, and taken to the river and pounded with stones and washed for three days. It is then taken to the cistern. A paper-maker's cistern is a cement-lined tank about seven feet by four and

four deep half filled with water. The paper pulp is thrown into this cistern. When it is thoroughly dissolved the workman sitting at the side of the pit, leaning over the water, takes in both hands the square frame which holds the screen which serves as a sieve, passes it under the water and draws it slowly and evenly to the surface, working it so that as the water passes through, a uniform film of pulp is left on the screen. The screen is then lifted up and turned over, and the film of paper is spread on a rag cushion. When layers have been heaped on this cushion nine to fourteen inches high a rag is spread over them, and on the rag is laid a plank weighted with heavy stones. When this pressure has drained the paper of some of its moisture the stories are taken away, and two men one standing at each end of the plank, seesaw over the bundle of paper. When it is well pressed the paper is peeled off, layer after layer, and spreads to dry either on the cemented walls of the building or on rags laid in the sun. When dry each sheet is laid on the polished wooden board and rubbed with a shell till it shines. The paper made by this process though rough and of a dingy yellow is strong and lasting. The makers sell it to Marwari Vani, Bohora, and Gujarati Vani dealers. The price for each *gaddi* of 240 sheets ranges from 8s to 10s. (Rs. 4-5). The cheaper varieties are generally bought by Government officials for envelopes, and the better kinds command a sale among native merchants who use them for account books for which their toughness and durability make them specially suitable. The retail price varies from 8s. to £2 (Rs.4-20) the ream of ten quires. The paper-makers almost never employ outside labour. The men and women of the family work together, the men doing the heavier and the women the lighter parts of the work. From the much greater cheapness of machine-made imported paper the demand for the local paper is small and declining. The makers are badly off, barely earning a living. They have no trade guild.

IRON POTS.

Poona city has twenty-seven iron pot factories, four of which belong to Telis or oilmen, three to Bohoras, ten to Kunbis, and ten to Malia. The industry employs 150 to 200 workmen Brahmans, Kunbis and Musalmans. All the iron pot factories in Poona city are in the Aditvar ward. The whole of the iron used is brought in sheets through Bombay from Europe. When at work iron pot makers wear nothing but a waistcloth tied round the hips. On holidays the Brahmans wear their own dress, and the rest the three-cornered turban, a long coat and all the Musalmans a waist and shouldercloth. They speak Marathi, and live in one-storeyed hired quarters. Their every-day food is *bajri* or millet cakes and *dal* or pulse with a few ground chilli and some simple

vegetables. Except the Brahmans both Hindu and Musalmans occasionally eat flesh and drink liquor though not to excess. The workers make little more than a living most of the profits going to the dealers. They work even on no-moon day. Their only holidays are *Kar* that is the day following *Mahasankrant* in January, five days during *Shimga* in March-April, Ganpati Day in August, and the day after all eclipses. Their busy season begins in *Bhadrapad* or July-August and lasts till *Chaitra* or March-April. The women and children do not help the men in their work. They work from sunrise to sunset with half an hour's rest at midday. The iron sheets are bought in Bombay near the Carnac Bridge at 11s. (Rs. 5½) the cwt. to which carriage to Poona adds 1s. 6d. the cwt. The dealers buy the iron sheets with their own capital. The iron pot maker uses nine appliances. Twenty to twenty-five chisels or *chhani* each worth 1½d. (1 a.); twelve to fifteen hammers of different sizes each worth 6d. (4 as.); half a dozen pincers or *sandsis* each worth 3d. (2 as.); two or three heavy iron cylinders each worth 4s. to 5s. (Rs. 2-2½); half a dozen compasses each worth 6d. (4 as.); six to eight large English anvils each worth £1 to £1 10s. (Rs. 10-15); half a dozen thick rounded anvils about six inches across fixed in *babhul* blocks and half buried in the earth each worth 6s. to 8s. (Rs. 3 -4); about a dozen thick pointed nails for punching holes together worth 4½d. (3 as.); half a dozen yearly renewed files at 1s. 6d. (12 as.) each. In making the iron vessels the iron sheet is laid on the floor and the shape required for the pot is traced with compasses on the sheet and cut out with a chisel. The piece of iron thus separated is then hammered on a solid iron anvil or *bangdi*, and roughly shaped into a hemisphere. It is next hammered on the large and small anvils, till the shaping is completed. The pieces forming parts of a pot are then nailed together and the joint filled up with putty. Its brim is filed, and the handles, made of iron rods flattened at the ends are rivetted on. The articles made are: The *tava* a griddle for baking native dainties; the *patele* a cylindrical pot with a slightly rounded bottom varying from a foot to three feet across and two to three feet deep; a *nagara* or large drum pot; tanks or *hauds* for storing water and grain; a *pohora* or cylindrical water-drawing pot nine inches to a foot across and seven to fourteen inches high; a sieve or *chalan* used by grain parchers or *bhadbunjas* ; a *kudhai* or frying pan, a hemispherical pot one foot to six feet across and two inches to two feet deep with two opposite handles; the *kail* or large flat-bottomed sugar-boiling pan. Of these articles the *patele* or round pot, the *nagara* or drum, the tank or *haud*, and the frying pan or *kadhar* used to be made of copper, but among the poor iron is taking the place of copper. The *tava* or griddle is used by all classes especially by the poor for cooking their millet cakes. The demand for iron ware is steadily on the increase. The

yearly import of iron sheets into Poona ranges from 14,440 cwt. to 24,908 cwt.

TAPE WEAVING.

Tape is woven in Poona city by one hundred to one hundred and fifty Ravals, who have come from Mohol and Sholapur. They are not permanently settled in Poona and visit their homes every year generally during the rains. In Poona they live in a part of the Ganj ward which is known as the Raval quarter. They look like Lingayats and worship Shiv but do not wear the *ling*. Their home tongue is Marathi. At Poona they live in hired one-storeyed quarters, eat no flesh, but drink liquor. The men dress in a *rumal* or headscarf, a short coat reaching to the waist, and a scarf round the middle. Tape weaving requires little skill. Most of the weavers are in debt to the tape dealers, and they keep hardly any holidays. They use machine-made yarn for the woof and hand-spun yarn for the warp. Tape is almost the only article in which hand-spun yarn is still used. The machine-made yarn which is almost always twenties, is brought from Bombay by the tape dealers. It is sold or rather given to the weavers on credit at 10s. to 12s. (Its. 5-6) the pound. The coarse hand-spun yarn comes from Sholapur into which it is brought from the Nizam's country. It is sold at Poona at 7½d. (5 *as.*) the pound. The tape weaver's appliances are simple. A bamboo cage or *phalka*, or large reel, worth 6d. (4 *as.*); a *vasan* or small reel worth 3d. (2 *as.*); a spindle or *phiraki* of nominal value; a bamboo shuttle or *kande*; and a flat wedge-shaped piece of wood with which the woof is driven home, worth 3d. (2 *as.*) The tape loom is of primitive make. Between two uprights, from a foot to one foot and nine inches high, are placed two horizontal bars one joining the tops and the other the centres of the uprights. To the central horizontal bar are tied a row of loops, each loop two inches long. In arranging the warp, one thread is passed through a loop and the other over the upper horizontal bar, at a spot just above the space between two loops. The weaver sits in front of the uprights, and holding in his right hand a bundle of woof yarn, passes it across through the warp into his left hand and forces the woof home by a blow from the flat wedge-shaped *hatya*. As he weaves, he slackens the warp which he keeps tied to a peg or beam on the other side of the upright frame. The broadest and thickest tape woven, called *padam*, is six to nine inches broad and twelve feet long. It is sold at 9d. to 10½d. (6-7 *as.*) the piece. It is white with black and red bands. A smaller variety called *kacha*, two to six inches broad and seven to fifteen feet long, varies in price from 1 ½d. to 1s. (1-8 *as.*). The narrow tape which is less than half an inch broad, is woven by poor Musalman women. It is believed

that at present (1882) in Poona city as many as 150 Musalman women weave narrow tape in their leisure hours earning a shilling or two a month.

FELT.

Felt or *burnus* is made at Poona by Pinjaris who are settled near the Nainsuk police station and near the temple of Someshvar. Eight or ten shops or rather families are (1883) engaged in making felt. They came to Poona three or four generations ago from Chakan, Khed, and Manchar in Junnar. They have been working in felt for generations and say they do not believe their forefathers ever did any other work. They speak Hindustani at home and Marathi out of doors. They live in one-storeyed hired houses and eat flesh though they generally live on a vegetable diet. The men wear a three-cornered turban, a short coat reaching the waist, and a scarf for the loins. They are poor. Their working hours are from seven to eleven and from one to sunset. They stop work on Fridays, *Bakar-Id*, and two days in *Ramzan*. The wool is brought from the shepherds or Dhangars of the villages near Poona in *Ashadh* or June-July and *Shravan* or July-August. Goat's hair costs 1 ½d. to 2 ½d. the pound (10-14 lbs. the rupee) and sheep wool 3d. to 4d. the pound (6-8 lbs. the rupee). The tamarind seeds required for sizing are bought in Poona at 1 ½d. to 2 ½d. (1-1 ½ as a *sher* of two lbs.) They generally borrow what money is wanted at twelve to twenty-four per cent a year. They work the raw material on their own account and pay their creditors out of the proceeds of the felt. The demand for felt is said to be on the decline on account of the importation of cheap European blankets. The only instrument they require is the teaser which consists of three parts, the bow or *kaman* which is hung from the ceiling, the harp-shaped teaser or *dasta*, and the dumbbell-shaped striker or *muth* with which the worker strikes the thong or leather string. The whole teaser costs 8s. to 10s. (Rs. 4-5). Besides the dumbbell striker the worker has a stick about two yards long. The wool is first disentangled by the women of the house and teased on the *dasta* by the men. Men or women then spread it on planks or mats and the tamarind seed paste is spread over it. Another layer of wool is spread on the paste and a layer of paste on the wool till it is half an inch to an inch thick. It is lastly laid in the sun and dried. It is sold in the workmen's houses at 6d. to 4s. (Rs. ¼-2) the piece, the price depending on the size of the article. The whole yearly outturn is not worth more than £200 (Rs. 2000).

WOOD-TURNING.

Six Kataris or hereditary Wood-Turners, ten Kunbis, and one Brahman earn their living at Poona by turning wood. They live in Aditvar ward near Subhansha's mosque and the Gujri market. They speak Marathi, live in one-storeyed hired quarters, and except the Brahman who lives solely on vegetable food, they occasionally eat flesh. The Brahman wears a rounded turban, a long coat reaching to the knees, a jacket, a waistcloth, and a shouldercloth. The Kataris and Kunbis wear a three-cornered turban, a long coat, and waist and shouldercloths. They work from seven to eleven in the morning and from one to sunset. They rest on all no-moon days, on the day after the chief or winter *Sankrant* in January, for two days of *Shimga* in March-April, and for two days after an eclipse. The women and children do not help the men. Their average monthly earnings range from 10s. to £1 (Rs. 5-10). The only kinds of wood they use are the *kuda* *Wrightia tinctoria*, and the *varas* *Heterophragma roxburghii*, which they buy from Mhar women who bring it from the forest lands near Poona. A head-load of sticks one to two inches in diameter costs them 2s. to 3s. (Rs. 1-1½). A wood-turner has two tools, the lathe and the chisel. The lathe or *thadge*, consists of two upright blocks of wood about two feet long six inches broad and six inches high, and two feet apart with a short iron peg or spike on the inner face of each. Of the two blocks of wood one is kept in its place by a heavy stone, the other is movable. The piece of wood to be turned is drilled at each end, the movable part of the lathe, always the left block, is taken away, the wood to be turned is slipped over the two iron spikes and the movable part of the lathe is put back in its place. The workman sits on a board opposite the lathe, and, with his left foot, keeps the movable block in its place. He takes his bow or *kaman*, a bamboo about three feet long with a loose string, and passing a loop of the string round the right end of the wood to be turned, tightens his bow, and, by moving it sharply at right angles to the lathe, makes the wood spin quickly on the two iron spikes. As it turns, the wood is worked into shape by the double-pointed chisel or *vakas* held in the left hand. When the wood has been shaped and smoothed, a piece of sealing wax is held close to it, and, by the friction, melted and spread over its surface. The final polish is given by rubbing it with a leaf of the *kevda* *Pandanus odoratissimus*. The chief articles turned are: The *latne* or rolling pin used in kneading wheat bread, a plain wooden bar one to two feet long and two or three inches round; it costs $\frac{3}{4}$ d. ($\frac{1}{2}$ a) and is not lacquered. The *gudgudi* or *hukka* the hubble-bubble. This is of three parts, the bowl, the handle, and the pipe. The bowl is made of a cocoanut shell with a hole at the top, polished and smoothed on the lathe. The handle which is eight to twelve inches long and three to four inches round, is hollowed, and the outside carved and covered with lac. The pipe is a hollow round stick, nine to twelve inches long and

one inch round, smoothed and lacquered. A hubble-bubble costs 4½ *d.* to 9*d.* (3-6 *as.*). Clothes-pegs or *khuntis*, four to six inches long and two to three round, cost 2*s.* (Re. 1) a score or *kodi*. Children's rattles or *khulkhulas* a lacquered stick two to four inches long and half an inch round, with, at each end, a hollow lacquered ball three to five inches round with a few pieces of stone inside, cost 1½ *d.* (1 *a.*); *kathadas* or balusters upright sticks six inches to three feet long, and half an inch to six inches round, lacquered, and varying in price from 1½ *d.* to 6*d.* (1-4 *as.*) a stick. Rulers or *akhanis*, one to two feet long and one to two inches round, are not coloured and cost 1½ *d.* to 4½ *d.* (1-3 *as.*). Walking sticks or *kathis* are generally supplied rough by the customer and turned for 3*d.* to 6*d.* (2-4 *as.*). All of these articles are sold in the turner's shops. They have no special merit and are not in much demand. The women do not help the men.

HISTORY

EARLY HISTORY

EARLY HINDUS. B.C.100-A.D.129

IN prehistoric times, like the rest of the Deccan, Poona is said to have formed part of the Dandakaranya or Dandaka forest, which the Ramayan represents as infested by Rakshasas or wild men who disturbed the religious rites of Brahman sages. A high and ancient holiness attaches to Bhimashankar the source of the Bhima, forty-five miles north-west of Poona, the Shivling of whose temple is one of the twelve great *lings* of India. [Indian Antiquary, II. 15 and note 1. The eleven other great *linga* are: Amareshvar near Ujjain; Gautameshvar unknown; Kedareshvar in the Himalayas; Mahakal in Ujjain; Mallikarjun on the Shrishail hill in Telingana; Omkar in the Narbada; Rameshvar on Rameshvar island near Cape Comorin; Someshvar in Somnath-Patan in Kathiawar; Trimbakeshvar at Trimbak in Nasik; Vaidyanath at Devgad in the Santhal district of Bengal; and Vishveshvar at Benares.]

From very early times trade routes must have crossed the Poona district down the Sahyadri passes to the Konkan seaports of Sopara Kalyan and Cheul. Rock-cut temples, rest-chambers, and inscriptions show that as far back as the first centuries before and after Christ trade went to and from the coast by the Nana and the Bor passes. The richness of the rock-cut temples both above the pass at Bedsa Bhaja and Karli, and below the pass at Kondane and Ambivli make it

probable that in the first centuries after Christ a great traffic moved along the Bor pass route. The early history of the district centres in Junnar, on the Nana pass route, fifty miles north of Poona, a city strongly placed, in a rich country, with a good climate, and facilities for trade. Two considerable groups of caves one near Kalamb about twelve miles south of Junnar, the other round Talegaon about thirty miles south-west of Kalamb, now on the main line of traffic from Junnar to the railway, apparently mark the old trade route from Junnar to the Bor pass. Of the founders of Junnar nothing is known. Even its early name has perished, if, as is generally supposed, the present name Junnar means Old City. [Pandit Bhagvanlal gives Junnar its old name by identifying it with the Tagara of Ptolemy (A.D. 160) and of the Periplus (A.D. 247). The arguments in support of the identification are the antiquity of Junnar as proved by its numerous caves and inscriptions, its position at the head of a highway of commerce, and its comparative nearness to Shelarvadi which Professor Bhandarkar finds to be the only name connected with the Konkan Silaharas, who call Tagara their original city (Bombay Gazetteer, XIII. 423; Professor Bhandarkar's Deccan Early History); and still more the position of the city between the three hills or *trigiri* of Lenadri, Manmoda, and Shivner, from which it might have been called *Trigiri* corrupted into *Tagara*. The chief argument against this identification is that the position of Junnar, 100 miles west of Paithan, does not agree with Ptolemy or with the author of the Periplus both of whom place Tagara ten days east of Paithan. A minor objection is that a seventh century copperplate recording a grant to an inhabitant of Tagara has been found in the Nizam s Haidarabad which agrees with the position of Ptolemy's and the Periplus' Tagara (compare Bombay Gazetteer, XIII. 423).] The town is probably as old as the large inscription on the walls of the rock-cut chamber at the head of the Nana pass which was engraved by a Deccan king one of whose capitals was probably at Junnar and whose date probably lies between B.C. 90 and A.D. 30. Next to Ashok's (B.C. 250) edicts at Girnar in Kathiawar and Sopara near Bassein in Thana, the Nana pass inscription is the oldest writing in Western India. It is believed to be the earliest historical record in the Deccan, and has the special interest of being the oldest known Brahmanical inscription in the whole of India. In the beginning salutations are offered to Vedic and Puranic gods, to Dharma and to Indra, to Chandra the moon, Surya the sun, Agni fire, and Marut wind, to the four region-guardians or *lokapals* who preside over the four quarters of the universe, Yama, Varuna, Kubera, and Vasava, and to Sankarshana Krishna's brother and Vasudeva or Krishna. It mentions a pious king of Dakshinapatha or the Deccan, a staunch supporter of the Vedic religion and strictly Brahmanical in his beliefs. It gives a long

account of Vedic sacrifices from the first ceremony of fire-placing or *agnyadhan* to the great horse or *ashvamedha* and other sacrifices. Mention is made of gifts of villages, elephants, horses, chariots, and of thousands and ten thousands of cows and *karshapan* coins. This inscription has the high value of showing that about B.C. 90 Buddhism had not yet triumphed over Brahmanism, and that the sacrifices of the Vedic age were still in use. The inscription was engraved by king Vedishri, who, as king of Dakshinapatha, probably improved the Nana pass, cut the rest-chamber for the use of travellers, and, in this large inscription, recorded the power and the piety of his family. Vedishri belonged to the great Andhrabhritya or Shatakarni dynasty. [The Shatakarnis, who are better known by their Puranic name of Andhrabhrityas, were a powerful Deccan dynasty which is supposed to have flourished in the two centuries before and the three centuries after the Christian era. Their original seat was Andhra or Telangan and their capital Dharnikot at the mouth of the Krishna. At the height of their power (A.D. 10-140?) they appear to have held the whole breadth of the Deccan from Sopara in Thana to Dharnikot near the mouth of the Krishna. Their inscriptions and coins have been found at Kanheri and Sopara in the Konkan, at Junnar, Karhad, Kolhapur, and Nasik in the Deccan, at Banavasi in North Kanara, at the Amravati tope in the Kistna district, and in other parts of the Madras Presidency. Details are given in Bombay Gazetteer, XIII. 409; XVI. 181-183, 620-623.] Several inscriptions, over what once were statues in the Nana pass chamber, are supposed to give Vedishri's pedigree mentioning Simuka Shatavahana his grandfather, [According to the Puranic lists Simuka, Sindhuka, or Sipraka was the founder of the Andhrabhritya dynasty. Sewall's Dynasties of Southern India, 5.] Shri Shatakarni and queen Nayanika his parents, and his two sons Prince Hakushri and Prince Shatavahana. Later in date than the great Nana pass inscription are the Buddhist caves, about 150 in three groups at Junnar, ten at Karle, twelve at Bhaja, two at Bedsa, and twenty at and near Shelarwadi probably all of about the first and second centuries after Christ. [The Ganesh Khind and Bhambhurda caves near Poona have no inscriptions. The Bhambhurda rock temple appears to be a Brahmanical work of about the eighth century. The Ganesh Khind caves are plain cells whose age cannot be fixed. The Kalamb caves which are mentioned by Mr. Elphinstone in 1815 (Colebrooke's Elphinstone, 1 283) have not yet (May 1884) been examined.] These rock temples contain seventy-five inscriptions also of the first and second centuries after Christ. The Karle and Junnar inscriptions give the names of kings Pulumavi and Nahapana, an inscription over one of the Nanaghat cisterns gives the name of Chatarpana Shatakarni son of Vasishthi, and a Bedsa inscription mentions a Mahabhoja's daughter

and a Maharathi's wife. [One of the Nana pass statue inscriptions (B. C. 90) also mentions a *Maharathagranika*, which may mean either a leader of large chariot fighters or, as is more probable, a leader of Marathas. In the latter sense Marathas would seem to mean Great Rattas, or Reddis, afterwards (760-973) the Ratta and Rashtrakuta kings of the Deccan and Karnatak. See Fleet's *Kanarese Dynasties*, 31-38, 79-83. The Bedsa inscription seems to show that the Mahabhojas married with the Maharathis. *Deccan Early History*, 10.] Among places, a Bedsa inscription mentions Nasik, two Junnar inscriptions mention Broach and Kalyan, and the Karle inscriptions mention Abulama perhaps Obollah at the head of the Persian gulf, [Compare *Bombay Gazetteer*, XIII. 421 note 2.] Dhenukakat or Dharnikot at the mouth of the Krishna, Sopara in Thana, and Vijayanti or Banavasi in North Kanara. Among donors the Junnar inscriptions mention three Yavans, a Shak, a Brahman minister, a goldsmith, and guilds of bamboo makers, coppersmiths, and corn dealers; the Karle inscriptions mention a goldsmith, carpenters, two Yavans, and two Persians or Parthians. [Bombay Archaeological Survey Report, IV. 89-114; Separate No. X. 22-55.] The workmanship of many of the caves, especially of the chapel in the Ganesh Lena group at Junnar the magnificent cathedral at Karle and the temple cave at Bedsa, [See under Places, Bedsa.] have the special interest of showing in the animal capitals of their pillars strong foreign, probably Parthian, element. Of the Mahabhoja mentioned in the Bedsa caves nothing is known except that inscriptions in the Kuda caves in Kolaba show that about the same time a dynasty of Bhojas was ruling in the Konkan. [The Bhojas and Mahabhojas appear to be a very old Deccan dynasty, as along with the Petenikas or rulers of Paithan on the north-east border of Ahmadnagar, Bhojas appear among Deccan kings in the thirteenth of Ashok's rock edicts (B.C. 250). *Ind. Ant.* X. 272.], The Pulumavi mentioned in the Junnar and Karle inscriptions seems to be the Pulumavi Vasishtiputra of the Nasik inscriptions whose date lies between A.D. 10 and A.D. 150; [Deccan Early History, 20; *Bombay Gazetteer*, XVI. 623.] Chatrapana is known to be the father of a later Andhrabharitya king Yajnasri Shatakarni one of whose silver coins has been found in Sopara; [Bombay Gazetteer, XIV. 288, 332.] and Nahapana, whose name occurs in an inscription of his minister at Junnar and of his son-in-law Ushavdat at Karle, [Ushavdat appears to have been the Gujarat and Konkan viceroy of Nahapana. His Karle and Nasik inscriptions mention gifts made at Somnath Pattan in Kathtawar and at Broach, as well as at Sopara in Thana and at Govardhan near Nasik. See under Places, Karle.] is supposed to be a Parthian or Shak viceroy whose date probably lies between B.C. 40 and A.D. 120. [Deccan Early History, 27; *Bombay Gazetteer*, XVI. 620.] In Professor

Bhandarkar's opinion Nahapan's minister's and other inscriptions at Junnar favour the view that Junnar was Nahapan's capital. [Deccan Early History, 22. If Junnar was the capital of Nahapana, the name Junnar may be not the old city, which, where there is no new city, is unmeaning, but the Yavans' city. In support of this suggestion it may be noticed that at the head of Ptolemy's (A.D. 150) Nanaguna (which apparently is the Nana pass though Ptolemy makes it a river), to the south of Nasik and to the east of Sopara is a town called Omenagara (Bertius' Ptolemy 174 and Asia Map X.), which, as the Yavans were also called Mins (Archaeological Survey of India Report, II. 45, 54) may be Minagara or Yavanagara that is Junnar.] For the 900 years ending early in the fourteenth century with the Musalman overthrow of the Devgiri Yadavs no historical information regarding Poona is available. Not a single stone or copperplate inscription has been found in the Poona district belonging to the three great dynasties of Chalukyas (550-760), [The name Chalukya is derived by tradition from *chulka*, *chaluka*, or *chuluka*, a waterpot, from which their ancestor is said to have sprung. This appears to be a late story, as, though *chaluka* or *chuluka* a waterpot may be the origin of the later forms Chalukya in the Deccan and Chalukya in Gujarat, it cannot be the origin of the early name which is written Chalkya, Chalukya, and Chalukya. They claim to belong to the Somvansh or lunar race and mention a succession of fifty-nine kings, rulers of Ayodhya, and after them sixteen more who ruled over the region of the south. The names of seven early Chalukya kings have been found who reigned from about 550 to 610. In 610 the Chalukya dominions were divided into an eastern kingdom whose head-quarters were Vengi in the delta of the Krishna and the Godavari, and a western kingdom whose head-quarters are believed to have been at Badami in Bijapur. Of this western branch called the Western Chalukyas the names of six kings have been found who ruled from 610 to 760 about which time they were overthrown by the Rashtrakutas. Several attempts were made by the dynasty, to regain its power but unsuccessfully until 973 when Taila II. destroyed the Rashtrakutas, and, under the slightly changed name of (Western) Chalukyas, up to about 1190, thirteen of his successors ruled over the greater part of the Deccan and the Karnatak. Details are given in Fleet's Kanarese Dynasties, 17-30, 39 - 56.] Rashtrakutas (760-973), [It is not certain whether the Rashtrakutas were northerners or a family of Rattas or Reddis the widespread tribe of Kanarese husbandmen who were formerly the strongest fighting class in the Karnatak and Maisur. Mr. Fleet seems to incline to a northern origin and to trace the name to Rashtrakuta or Rashtrapati, a title meaning a district head who is subordinate to some overlord. But it seems not improbable that the Rashtrakutas were Rattas or Reddis,

and that the main branch when they rose to supreme power Sanscritised their name, while the side branch of Rattas who ruled as underlords at Saundatti and Belgaum and claimed a common origin with the Rashtrakutas kept their original name. The names of about twenty Rashtrakuta kings have been found, the seventh of whom Dantivarma II. overthrew the Western Chalukyas about 760. His fifteen successors were powerful sovereigns who ruled till 973 when the last of their race, Kakka III., was defeated and slain by the revived Western Chalukyas, better known under the slightly changed name of Western Chalukyas. Details are given in Fleet's Kanarese Dynasties, 31-38.] and Devgiri Yadavs (1190-1295). [The Devgiri Yadavs (1150-1310) were a dynasty of ten powerful kings who, before the Musalman conquest (1295) held almost the whole of the Deccan, the Konkan, and the Bombay Karnatak. Their capital was originally at a place called Tenevalege, then at Vijaypur or Bijapur, and lastly at Devgiri the modern Daulatabad in the Nizam's territories. Their greatest king was the ninth, Ramchandra or Ramdev (1271-1308), whose minister was Hemadri or Hemadpant the reputed builder of the widespread Hemadpanti temples of the Deccan.] Still, as inscribed stones and copperplates have been found in the neighbouring districts of Ahmadnagar Sholapur and Satara, it is probable that the Early and Western Chalukyas held the Poona district from about 550 to 760; the Rashtrakutas to 973; the Western Chalukyas to 1184; and the Devgiri Yadavs till the Musalman conquest of the Deccan about 1300. [The only recorded traces of these early Hindu dynasties are the Shaivite rock temple at Bhambhurda two miles west of Poona, and scattered Hemadpanti remains varying from the tenth to the thirteenth century. The chief Hemadpanti remains are the Kukdeshvar temple at Pur ten miles north-west of Junnar, ponds at Behle twenty-one miles north-east of Junnar, and at Pabal twenty-five miles north-east of Poona, transformed mosques at Poona, Junnar, and Sasvad, and the Ganga and Jumna rock-cut reservoirs on the top of Shivner fort in Junnar. The broken Ganpati at the foot of the dismantled rock-cut ladder in the middle of the east or Junnar face of the Shivner scarp appears also to belong to the time of the Devgiri Yadavs, and to show that Shivner was used by them as a fort. According to Ferishta (Briggs Edition, II. 436) Chakan as well as Shivner was an early Hindu fort. See under Places, Junnar and Chakan.]

Under the Devgiri Yadavs much of the country is said to have been divided among Maratha or Koli hill chiefs or *paligars*; [Grant Duff's Marathas, 24.] except to Nag Naik the Koli chief of Sinhgad no reference to any Poona local chief has been traced.

MUSALMANS 1294-1760.

Delhi Governors,1318-1347.

The first Musalman invasion of the Deccan took place in 1294, but the power of the Devgiri Yadavs was not crushed till 1318. [Briggs' Ferishta, I. 304. In 1294 Ramdev the ruling king of Devgari was surprised in his capital by Ala-ud-din Khilji the nephew of the Delhi emperor Jalal-ud-din Khilji, and forced to pay tribute. In 1297, Ramdev gave shelter to Rai Karan the refugee king of Gujarat, and neglected to pay tribute for three years (Ditto, I. 365). In 1306 Malik Kafur Ala-ud-din's general reduced the greater part of Maharashtra, distributed it among his officers, and confirmed Ramdev in his allegiance (Ditto, I. 369). In 1310 Ramdev was succeeded by his son Shankardev who was not well affected to the Musalmans (Ditto, I. 373). In 1312 Malik Kafur marched a third time into the Deccan, seized and put Shankardev to death, wasted Maharashtra, and fixed his residence at Devgad (Ditto, I. 379), where he remained till Ala-ud-din in his last illness ordered him to Delhi. During Malik Kafur's absence at Delhi, Harpaldev the son-in-law of Ramdev stirred the Deccan to arms, drove out many Musalman garrisons, and, with the aid of the other Deccan chiefs, recovered Maharashtra. In 1318 Mubarik Khilji, Ala-ud-din's son and successor, marched to the Deccan to chastise Harpaldev who fled at the approach of the Musalmans, and was pursued, seized, and flayed alive. Mubarik appointed Malik Beg Laki, one of his father's slaves, to command in the Deccan, and returned to Delhi. (Ditto, I. 389).] From 1318 Maharashtra began to be ruled by governors appointed from Delhi and stationed at Devgiri. At first the conquest of the country was imperfect. In 1340 the Delhi emperor Muhammad Tughlik (1325-1351) who, in 1338, had made Devgiri his capital and changed its name to Daulatabad or the City of Wealth, marched against the fort of Kondhana the modern Sinhgad about ten miles south of Poona. Nag Naik, the Koli chieftain, opposed him with great bravery, but was forced to take refuge within the walls of the fort. As the only way to the hill top was by a narrow passage cut in the rock, Muhammad, after fruitless attempts on the works, blockaded the fort. At the end of eight months, as their stores failed them, the garrison left the fort, and Muhammad returned to Daulatabad. Three years later (1341) Musalman exactions caused a general revolt in the Deccan, which, according to Ferishta, was so successful that in 1344 Muhammad had no part of his Deccan territories left him except Daulatabad. [Briggs' Ferishta, I. 426-427. This statement seems exaggerated. In 1346 there were Musalman governors at Raichur, Mudkal, Kulbarga, Bedar, Bijapur, Ganjauti,

Raibag, Gilhari, Hukeri, and Berar. Ditto, 437.] In 1346 there was widespread disorder, and the Delhi officers plundered and wasted the country. [Briggs' Ferishta, I. 432-433.] These cruelties led to the revolt of the Deccan nobles under the able leadership of an Afghan soldier of fortune, named Hasan Gangu.

Bahmanis, 1347-1490.

The nobles were successful, and freed the Deccan from dependence on Northern India. Hasan [Briggs' Ferishta, II. 285-291. Hasan Gangu, the first Bahmani king, was an Afghan of the lowest rank and a native of Delhi. He farmed a small plot of land belonging to a Brahman astrologer, named Gangu, who was in favour with the king of Delhi. Having accidentally found a treasure in his field, Hasan had the honesty to give notice of it to his landlord. The astrologer was so struck with his integrity that he exerted his influence at court to advance Hasan's fortunes. Hasan thus rose to a great station in the Deccan, where his merit marked him out among his equals to be their leader in their revolt. He assumed the name of Gangu in gratitude to his benefactor, and from a similar motive added that of Bahmani or Brahmani by which his dynasty was afterwards distinguished. Elphinstone's History of India, 666. The Bahmani dynasty consisted of the following eighteen kings, who were supreme for nearly 150 years (1347 -1490) and continued to hold power for about thirty years more:

The Bahmanis, 1347 - 1526.

NAME.	Accession.	NAME.	Accession.
1 Ala-ud-din Hasan Gangu	1347	11 Humayun	1457
		12 Nizam	1461
2 Muhammad I	1388	13 Muhammad II.	1463
3 Mujahid	1375	14 Mahmud II.	1482
4 baud	1378	<i>Nominal Kings.</i>	
6 Mahmud I	1378		
6 Ghaias-ud-din	1397		
7 Shams-ud-din	1397	15 Ahmad II.	1518

8 Firoz	1397	16 Ala-ud-din III.	1520
9 Ahmad I.	1422	17 Vali	1822
10 Ala-ud-din II.	1433	18 Kalim	1626

]

founded a dynasty, which, in honour of his patron a Brahman, he called Bahmani, and which held command of the Deccan for nearly 150 years. The Bahmani capital was first fixed at Kulbarga about 225 miles south-east of Poona, and in 1426 was moved to Bedar or Ahmadabad-Bedar about 100 miles further east. By 1351 Ala-ud-din Hasan Gangu Bahmani, by treating the local chiefs and authorities in a liberal and friendly spirit, had brought under his power every part of the Deccan which had previously been subject to the throne of Delhi. [Briggs' Ferishta, II. 291-232; Grant Duff's Marathas, 25.] In 1357, Ala-ud-din divided his kingdom into four provinces or *tarafs*, over each of which he set a provincial governor or *tarafdar*. Poona formed part of the province of Maharashtra, of which Daulatabad was the centre and which included the country between Junnar, Daulatabad, Bid, and Paithan on the north, and Poona and Cheul on the south. This was the chief province of the kingdom, and was placed under the charge of the king's nephew. [Briggs' Ferishta, II. 295.] In the later part of the fourteenth century, under the excellent rule of Muhammad Shah Bahmani (1358-1375), the banditti which for ages had harassed the trade of the Deccan were broken and scattered, and the people enjoyed peace and good government. [Briggs' Ferishta, II. 325. 326.] This period of prosperity was followed by the awful calamity of the Durga Devi famine, when twelve rainless years (1396-1407) are said to have wasted the country to a desert. In the first years of the famine Mahmud Shah Bahmani (1378-1397) is said to have kept ten thousand bullocks to bring grain from Gujarat to the Deccan, and to have founded an orphan school in each of the seven leading towns of his dominions. [Briggs' Ferishta, II. 349-350. These seven towns were Cheul, Dabhol, Elichpur, Daulatabad, Bedar, Kulbarga, and Kandhar.] No efforts of any rulers could preserve order or life through so long a series of fatal years. Whole districts were left without people, and the strong places fell from the Musalmans into the hands of local chiefs. [Grant Duffs Marathas, 26.] Before the country could recover it was again wasted by two rainless years in 1421 and 1422. Multitudes of cattle died and the people broke into revolt. [Briggs' Ferishta, II. 405. 406.] In 1429 the leading Bahmani noble, whose title was always

Malik-ul-Tujar, that is Chief of the Merchants, went through the Deccan restoring order.

So entirely had the country fallen waste that the old villages had disappeared and fresh ones had to be formed generally including the lands of two or three old villages. Land was given to all who would till it free of rent for the first year and for a horse-bag of grain for the second year. This settlement was entrusted to Dadu Narsu Kale an experienced Brahman, and to a Turkish eunuch of the court. [Grant Duff's Marathas, 26.] In 1443 the Malik-ul-Tujar, who was ordered to reduce the seacoast or Konkan forts, fixed his headquarters at Chakan, a small fort eighteen miles north of Poona, and secured Shivner the famous hill fort of Junnar. [Malik-ul-Tujar's fort is probably the present fort of Chakan. According to a local story the original fort was built by an Abyssinian in 1295. Grant Duff's Marathas, 27.] From Junnar he several times sent detachments into the Konkan. An expedition which he commanded in person ended in disaster. His Deccan and Abyssinian troops refused to advance into the woody country, and the Malik-ul-Tujar with 500 Moghals was surrounded and slain. [Briggs' Ferishta, II. 436 - 439.] The rest of the Moghals retired. Contrary to the advice of the Deccan officers, who tried to persuade them to withdraw to their estates, the Moghals fell back on Chakan. The Deccan officers sent false word to the king that the disaster was due to the Malik-ul-Tujar's rashness and to the turbulence and disobedience of the Moghals, who, they said, were now in revolt. The king ordered the Moghals to be put to death, and the Deccan nobles attacked Chakan. After the siege had lasted for two months, the Deccan officers forged a letter from the king and persuaded some of the Moghals to leave the fort. They gave an entertainment to the rest in the fort, and while the feast was going on, attacked them and put them to death. At the same time one party of Moghals outside of the fort were attacked and every male was put to death. Another party who were more on their guard made good their escape. The survivors succeeded in convicting the Deccan nobles of their treachery and procured their punishment. [Briggs' Ferishta, II. 440 - 447.] From this time Chakan and Junnar continued military posts. In 1472 and 1473 a failure of rain so wasted the country that in 1474 when rain fell scarcely any one was left to till the land. [Briggs' Ferishta, II. 483, 493, 494.] The power and turbulence of their provincial governors was a source of weakness and danger to Bahmani rule. To remove this evil Mahmud Gawan, the very learned and able minister of Muhammad Shah Bahmani II. (1463-1482), framed a scheme under which the territories were divided into eight instead of into four provinces; in each province only one fort was left in the Governor's hands; all others

were entrusted to captains and garrisons appointed and paid from headquarters; the pay of the captains was greatly increased and they were forced to keep their garrisons at full strength. [Briggs' Ferishta, II. 503,604.] This scheme for reducing their power brought on Mahmud Gawan the hatred of the leading nobles They brought false charges of disloyalty against him. The king was weak enough to believe them and foolish enough to order the minister's execution. Bahmani power never recovered the murder of Mahmud Gawan.

Under the Bahmanis, to control the Kolis and other wild hill tribes, their chiefs were given the rank of nobles or *sardars* and some of them were called *mansabdars* or honourables. One of the headmen of each *maval* or western valley was made a captain or *naik*, and, over the whole west, a tract which was known as the Fifty-two Valleys or *Bavan-Mavals*, a head captain or *sarnaik* was named whose headquarters were at Junnar. [Captain Mackintosh in Jour. Bom. Geog. Soc. I. 238. This arrangement was continued by the Ahmadnagar kings and by the Moghals. The last head captain was Muhammad Latif about 1670.]

Of the state of the Poona Deccan, at the time of the decay of Bahmani power, the Russian traveller Athanasius Nikitin (1468-1474) has left some particulars. [Major's India in the Fifteenth Century, Athanasius Nikitin, 9-12.] Athanasius, who was at the time trading in horses, after a voyage through a sea swarming with pirates reached Cheul in Kolaba about thirty miles south of Bombay. After a week's Stay at Cheul he started with a valuable stallion and went by land eight days to Pili to the Indian mountain, apparently Pulu Sonalu in Thana near the foot of the Nana pass. From Pulu he went in ten days to Umri, probably for his horse's sake avoiding the Nana pass, and ascending to the Deccan by some other route. From Umri, which has not been identified, he went in six days to Jooneer, that is Junnar, bringing his horse safely, but at a cost of about £16 (100 roubles). On the way, as was the custom for foreign travellers, Athanasius stopped at inns where the landlady cooked the food, made the bed, and slept with the stranger. Junnar stood on a stony island, no human hands had built it, God made the town; a narrow road which it took a day to climb, broad enough for only one man at a time, led up the hill. At Junnar lived Asat Khan a tributary of Maliktuchar that is Malik ul-Tujar the governor of Daulatabad. Asat Khan held seven of Malik-ul-Tujar's twenty-seven *tmas* that is *thanas* or posts. He had been fighting the Kafars, that is the infidels or Hindus, for twenty years, being sometimes beaten, but mostly beating them. Asat Khan rode on men, though he had many good elephants and horses. Among his attendants were many

Khorasanians, some of whom came from the countries of Khorasan, Orob, Sarkemsk, and Cheyotan. All came by sea in *tavas* or Indian ships. The winter began from Trinity Day in June, and Athanasius wintered at Junnar living there for two months. For four months day and night there was nothing but rain and dirt. The people were tilling the ground, sowing grain, *tutu regan*, perhaps *tur* and *ragi*, peas and all sorts of vegetables. [From the translation Athanasius seems to have used the Russian wheat in the general sense of grain. The grain must have been millet.] Wine was kept in large Indian goat skins. Horses were not born in the country, but oxen and buffaloes were, and were used for riding, carrying goods, and every other purpose. The horses were fed on peas, also on *khichiri* boiled with sugar and oil. In the early morning they got *shisheniys* (?). In the winter the common people put on a *fata* or shoulder cloak, sometimes wearing it round the waist, sometimes on the shoulders, and sometimes on the head. The princes and nobles wore trousers, a shirt, and a long coat, and three scarfs, one on the shoulder, another round the waist as a belt, and a third round the head. While he was at Junnar Asat Khan took Athanasius' horse, and, hearing he was no Muhammadan but a Russian, said he would give him back the horse and a thousand pieces of gold, if he would embrace the Muhammadan faith; if he refused to embrace the Muhammadan faith he would keep the horse and fine Athanasius a thousand pieces of gold. During the four days which Asat Khan gave him to consider his offer, a man named Khoza Iocha Mahmet came from Khorasan and took pity on Athanasius, went to the Khan, prayed him not to insist on Athanasius' conversion and brought him back his horse. Christian brethren of Russia, says Athanasius, whoever of you wishes to go to the Indian country may leave his faith in Russia, confess Muhammad, and then proceed to the land of Hindustan. Those Musalman dogs have lied to me, saying I should find here plenty of our goods; there is nothing for our country; the goods are for the land of Musalmans, as pepper and colours and these are cheap.

In 1477 Mahmud Gawan was succeeded in the office of minister by Nizam-ul-Mulk Bhairi. [Nizam-ul-Mulk Bhairi was a Vijayanagar Brahman from Patri whose original name was Timappa, the son of Bhairu. In his infancy he was taken prisoner by the Muhammadan army of Ahmad Shah Bahmani (1422-1435). On becoming a Musalman he received the name of Hasan, and was brought up as one of the royal slaves. The king was so struck with his abilities that he made him over to his eldest son Prince Muhammad as a companion, with whom he was educated and became an excellent Arabic and Persian scholar. From his father's name Hasan was called Bhairu and this the prince

changed to Bhairi, the Falcon, or, according to some accounts, the falconer an office which he is said to have held. When Muhammad succeeded to the throne he made Hasan a commander of a thousand horse. Briggs' *Ferishta*, III, 189-190.] About 1485, Bid and other districts including Poona were added to the estates of Nizam-ul-Mulk, and the management of part of it was made over to the minister's son, Malik Ahmad, the founder of the Nizam Shahi dynasty (1490-1636). Malik Ahmad made Junnar his headquarters. In 1486 Zain-ud-din, who had command of Chakan, went into revolt, and Nizam-ul Mulk ordered his son Malik Ahmad to reduce Chakan. Zain-ud-din applied for help to Yusuf Adil Khan of Bijapur, who sent 6000 horse which he ordered to encamp near the fort of Indapur, which belonged to Yusuf Adil Khan, and watch Malik Ahmad's movements. Besides the Musalman commandant of Chakan, other chiefs, several of whom were Hindus, held places of strength in Malik Ahmad's new estates. Some of these chiefs, on the plea that the king was a boy and that such changes should not be made till he came of age, refused to give up their forts. Among them was the Maratha commandant of Shivner, the hill fort of Junnar. Malik Ahmad attacked the fort, and after a long siege the garrison surrendered. The capture of Shivner was of the greatest importance to Malik Ahmad, as five years' revenue of Maharashtra was stored in the fort. This treasure enabled Ahmad to make rich presents to his officers and troops, and helped him to secure all the places of the greatest strength in west and south-west Poona. Among the forts which fell into Ahmad's hands, in consequence of his success at Junnar, are mentioned Chavand and Jivdhan within ten miles west of Junnar, Lohogad about thirty miles north-west of Poona, Koari about five miles to the south-west of Lohogad, Kondhana, the modern Sinhgad about eight miles south, and Purandhar about eighteen miles south-east of Poona; Mahuli in Thana, and Pali in Bhor about twelve miles south Kolaba.

[Nizam Shahis, 1490-1636.](#)

In 1486 Nizam-ul-Mulk, the Bahmani minister, was assassinated at the Bedar court. On hearing of his father's assassination Malik Ahmad, who was besieging Rajapur in Janjira, returned to Junnar, assumed the title of Ahmad Nizam-ul-Mulk Bhairi, and set himself to improve the state of the country. As Malik Ahmad, though he continued to read the public prayers in his master's name, had practically thrown off his allegiance, Mahmud Shah Bahmani II. (1482-1518) ordered Yusuf Adil Khan of Bijapur and Zain-ud-din of Chakan to attack him. But Yusuf, who soon after followed Malik Ahmad's example and assumed independence, instead of advancing against Malik Ahmad, withdrew his

troops from Indapur which was part of the Bijapur territory. Malik Ahmad, or as he was now styled Ahmad Nizam, appointed Zarif-ul-Mulk Afghan his commander-in-chief or *Amir-ul-Omra*, and Nasir-ul-Mulk Gujarati, minister of finance or *Mir Jumla*. Ahmad tried but failed to win to his side Zain-ud-din the commandant of Chakan. As the Bahmani army was advancing against him, Ahmad left his family in Shivner and marched to meet the Bahmani force. During the night he suddenly turned on Ohakan, was himself the first to scale the walls, and had helped seventeen of his men to gain a footing before the garrison took alarm. Zain-ud-din and his men fought with great bravery, but their leader was killed and the rest surrendered. From Chakan Ahmad marched against and defeated the Bahmani army. He returned to Junnar and busied himself with improving the internal management of his territory. [Briggs' Ferishta, III. 190-195.] On the 28th of May 1490, at Bagh or the garden, now the site of Ahmadnagar, Ahmad gained a complete victory over the Bahmani forces. [Briggs' Ferishta, HI. 197.] After his return to Junnar, without a rival or an enemy, on the advice of Yusuf Adil Shah, Ahmad assumed the position of king, had the public prayers read in his own name, and had the white canopy of state borne over his head. But this assumption of kingly power was so distasteful to some of his leading supporters that Ahmad stopped the reading of prayers in his name, and allowed his nobles to use a canopy which differed from his own state canopy only in not being lined with scarlet. [Briggs' Ferishta, III. 198.] Shortly after, at the request of his officers, Ahmad again assumed the rank of king and had the prayers read in his name. [Briggs' Ferishta, III. 198. About the same time out of the runs of the Bahmani kingdom rose the Adil Shahi dynasty of Bijapur, the Kutb Shahi dynasty of Golkonda seven miles west of Haidarabad, and the Imad Shahi dynasty of Elichpur in East Berar.]

In 1493 Ahmad's sister, who was the wife of one of the Daulatabad family of Ashrafs, came to Junnar complaining of the murder of her son and of her husband by her husband's brother Malik Ashraf. Ahmad marched against Malik Ashraf, and, after besieging Daulatabad for two months without success, returned to Junnar. [Briggs' Ferishta, III. 200.] In 1494 Ahmad moved his capital from Junnar to Bagh, the site of his great victory over the Bahmani troops in 1490, where, about half-way between Junnar and Daulatabad, he had founded the new city of Ahmadnagar. [Briggs' Ferishta, III. 202. At Ahmadnagar the Nizam Shahi dynasty founded by Ahmad continued through ten successions to 1600, when Ahmadnagar was taken by Akbar the Moghal emperor. One more king afterwards reigned at Daulatabad, till 1630 when he was deposed and put to death. Two more infant kings

were nominated and in 1636 the kingdom was destroyed by Shah Jahan, The names and dates of the Nizam Shahi kings are:

Nizam Shahi Kings, 1490-1636.

NAME.	Date.	NAME.	Date.
Ahmad	1490	Burhin II.	1590
Burhan	1508	Ibrahim	1594
Husain	1553	Ahmad II.	1593
Murtaza I	1565	Bahadur	1695
Miran Husain	1588	Murtaza	1605 - 1631
Ismael	1588		

]

Except perhaps Indapur, which belonged to Bijapur, the territory of Poona remained subject to the Ahmadnagar kings.

Under the Ahmadnagar kings, though perhaps less regularly than afterwards under the Moghals, the country was divided into districts or *sarkars*. The district was distributed among subdivisions which were generally known by Persian names, *pargana*, *karyat*, *sammatt*, *mahal*, and *taluka*, and sometimes by the Hindu names of *prant* and *desh*. The hilly west, which was generally managed by Hindu officers, continued to be arranged by valleys with their Hindu names of *Mora*, *murha*, and *maval*. The collection of the revenue was generally entrusted to farmers, the farms sometimes including only one village. Where the revenue was not farmed, its collection was generally entrusted to Hindu officers. Over the revenue farmers was a Government agent or *amil*, who, besides collecting the revenue, managed the police and settled civil suits. Civil suits relating to land were generally referred to juries or *panchayats*. [Grant Duff's Marathas, 36, 38.] Though the chief power in the country was Muhammadan, large numbers of Hindus were employed in the service of the state. The garrisons of hill forts seem generally to have been Hindus, Marathas Kolis and Dhangars, a few places of special strength being reserved for Musalman commandants or *killedars*. Besides the hill forts some parts of the open country were left under loyal Maratha and Brahman officers with the title of estate holder or *jagirdar*, and of district head or *deshmukh*. Estates were generally granted on military tenure, the

value of the grant being in proportion to the number of troops which the grant-holder maintained. Family feuds or personal hate, and in the case of those whose lands lay near the borders of two kingdoms an intelligent regard for the chances of war, often divided Maratha families and led members of one family to take service under rival Musalman states. [Grant Duff's Marathas, 36, 38.] Hindus of distinguished service were rewarded with the Hindu titles of *raja*, *naik*, and *rav*. Numbers of Hindus were employed in the Ahmadnagar armies.

In 1529 Burhan Nizam (1508-1553), the second of the Ahmadnagar kings, was defeated by the troops of Bahadur Shah of Gujarat (1525-1535). This defeat led to an important change in the management of the Ahmadnagar state. Burhan, who had retired to Junnar, believed that his failure was due to the unpopularity of his minister or *peshwa*. [The Persian title of Peshwa was brought into use in the Deccan in 1397 by Ghaia-ud-din. Bahmani (1397). It was adopted from the Bahmanis by the Ahmadnagar kings, and from the Ahmadnagar kings by Shivaji. Briggs' Ferishta, II. 353.] Shaikh Jafar was deprived of his office, and it was given to a Brahman whom Ferishta calls Kavar Sen. [Briggs' Ferishta, II. 353.] From the time of Kavar Sen's appointment to be minister, Hindus gained great influence in the Ahmadnagar government. [Grant Duff's Marathas, 34 and foot.] Under the Ahmadnagar kings few references to places within Poona limits have been traced, though in ordinary times both Sinhgad and Purandhar in South Poona were in their hands. [Khafi Khan in Elliot and Dowson, VII. 272.] In 1562 Husain Nizam Shah the third king of Ahmadnagar (1553-1565), pursued by Ram Raja of Vijayanagar and Ali Adil Shah of Bijapur, retired to the Junnar hills, and, employing his own troops to lay waste the districts of Junnar and Purandhar, prevented the enemy's advance. [Lassen, IV. 214. Of the Ahmadnagar generals at this time one was an Abyssinian, one a Deccan Musalman, and one a Koli. Ditto.] In 1564, on the accession of Murtaza Nizam Shah, one of his brothers Burhan Nizam with his sons, was placed in confinement on Lohogad hill about eight miles south-east of Khandala, and a second brother, Shah Kasim, was confined on Shivner near Junnar. In 1576, hearing that his brother was hated at Ahmadnagar, Burhan won over the commandant of Lohogad, and advanced from Lohogad to Ahmadnagar at the head of 6000 horse, but was not successful. [Briggs' Ferishta, III. 271, 282.] Burhan's two sons Ibrahim and Ismael continued in Lohogad till 1588 when they were carried to Ahmadnagar and Ismael was placed on the throne.

Between 1564 and 1589 Salabat Khan, the leading man at Ahmadnagar, according to Ferishta, made the country more prosperous than it had been since Mahmud Bahmani's time (1378-1397). In 1589 court factions forced him to retire to Burhanpur, and from Burhanpur he went to Talegaon, twenty miles north-east of Poona, and died there before the close of the year. [Briggs' Ferishta, III. 262, 279.] In 1594 Bahadur the infant son of Burhan Nizam II. was kept in confinement for over a year at Chavand, and was then raised to the Ahmadnagar throne. [Briggs' Ferishta, III. 293, 296, 304.]

Maloji's Jagir.

The rise of the Marathas may be traced to the Moghal attack on Ahmadnagar in 1595. In 1595 king Bahadur Nizam II. (1595-1605) ennobled a Maratha, named Maloji Bhonsla, with the title of raja, and enriched him with the estates or *jagirs* of Poona and Supa, and the charge of the forts and districts of Shivner and Chakan. The headquarters of this Maloji Bhonsla, who is said to have held several *patilships*, were at Verul or Ellora near Aurangabad. Maloji's father Babji Bhonsla was descended from Bhosaji, who is said to have been the first of the family to settle in the Deccan. Bhosaji claimed descent from a younger or from an illegitimate son of the royal family of Udepur in Rajputana. [Grant Duff's Marathas, 41; Scott's Deccan, II. 4; Shivaji's Bakhar by Malharrao Ram Chitnis (1811).] Maloji married Dipabai the sister of Jagpalrao Naik Nimbalkar the *deshmukh* of Phaltan. The story told of his rise to power in the Ahmadnagar court is, that, in 1599, at the time of the *Holi* festival in March-April, Maloji took his son Shahaji, a boy of five, to pay his respects to Lukhji Jadhavrao, Maloji's patron and the chief Maratha in the Ahmadnagar state. Lukhji Jadhavrao, pleased with the boy seated Shahaji near Jiji his daughter a child of three or four. The children began to play, and Lukhji joking said to the girl, How would you like him for a husband? The guests laughed, but Maloji rose and solemnly accepted Lukhji's offer of marriage. Lukhji and his wife were furious, but Maloji stuck to his point and carried it, when, in 1599, his successful services were rewarded with the title of raja. [Grant Duff's Marathas, 41.] In 1600 the city of Ahmadnagar was taken by the Moghals. Partly from the disorders caused by the rebellion of Jahangir's son Khusru, which followed Jahangir's accession on the death of Akbar in 1605, Moghal power in the Deccan declined. Their generals in Ahmadnagar had also to deal with the Abyssinian slave Malik Ambar, a man of the highest talent both in military and in civil affairs. Though the Moghals still held Ahmadnagar in 1605, Malik Ambar raised Murtaza Nizam II. to the throne, and succeeded in recovering Junnar and making it the head-

quarters of a state which included the greater part of the former possessions of Ahmadnagar. From Junnar, he moved in the same year to Kharkhi near Ellora, a place which was afterwards named Aurangabad by Prince Aurangzeb. Malik Ambar's power remained unshaken till his death in 1633 when he was succeeded by his son Fateh Khan. Great as was his success as a general, Malik Ambar is best known by his excellent land system. He stopped revenue-farming, and, under Musalman supervision, entrusted the collection of the revenues to Brahman agents. He renewed the broken village system, and, when several years of experiments had enabled him to ascertain the average yield of a field, took about two-fifths of the outturn in kind, and afterwards (1614) commuted the grain payment to a cash payment representing about one-third of the yield. Unlike Todar Mal, Akbar's famous minister by whom the lands of North India were settled, Malik Ambar did not make his settlement permanent, but allowed the demand to vary in accordance with the harvest. This system was so successful that, in spite of his heavy war charges, his finances prospered and his country thrived and grew rich. [Grant Duff's Marathas, 43.]

In May 1627, in Shivner fort near Junnar, Jijibai Shahaji's wife gave birth to Shivaji, the founder of the Maratha empire. [Grant Duff's Marathas, 55.] In 1629 the rains failed and a second failure in 1630 caused grievous suffering, Thousands left the Deccan and numbers perished in their homes; whole districts were emptied of people. The famine was accompanied by an almost complete loss of cattle and was followed by a pestilence. [Elphinstone's History, 507; Badshah Nama in Elliot and Dowson, VII. 24-25.] In 1629 Shahaji, who had succeeded his father Maloji in Poona and Supa, broke his connection with the Nizam Shahi government. He retired to Poona and Chakan, offered his services to the Moghal emperor, was confirmed in his lands, and received the command of 5000 horse, a dress of honour, and £20,000 (Rs. 2 lakhs) in cash. [Badshah Nama in Elliot and Dowson, VII. 15. The details of Shahaji's comma or *masnab* vary from 5000 to 15,000 horse. Ditto and footnote.] In 1632, in spite of these and other gifts, Shahaji left the Moghal service and sided with Bijapur against the Moghals. At this time Shivaji and his mother had several narrow escapes of being caught by the Moghals. On one occasion Jijibai was taken prisoner, but was released and conveyed to the fort of Kondhana or Sinhgad. [Grant Duff's Marathas, 58.] In 1631 Murtaza Nizam II. was thrown into prison and strangled by order of Fateh Khan the son of Malik Ambar, and the infant son of Murtaza was raised to the throne. In 1634 Shah Jahan captured Daulatabad and took prisoner the young Nizam Shahi prince. The Moghals supposed that with the fall

of Daulatabad and the capture of the prince the war with Ahmadnagar was at an end. But Shahaji who had the support of Bijapur, proclaimed another prince heir to the Nizam Shahi kingdom, and, with the help of the local Brahman officers, succeeded in overrunning a great part of the southern Ahmadnagar territories and seizing most of the places of strength. At Gangapur on the Indrayani he weighed himself against money and changed the name of the town to Tulapur, the Weighing Town. In 1635 a Moghal army of 20,000 horse took the field against Shahaji, and he was forced to retire into Bijapur territory to the south of the Nira. According to Maratha tradition the town of Poona was destroyed by the Moghals and an ass-drawn plough drawn over the site. [Shivaji's Bakhar by Malharav Ram Chitnis (1811).] In 1636 Muhammad of Bijapur sued for peace and concluded a treaty with the Moghals, under which the Ahmadnagar territory was divided between Bijapur and the Moghals, Bijapur securing the country between the Bhima and the Nira as far north as Chakan. [Grant Duffs Marathas, 52.] In 1637, as Shahaji declined to enter Bijapur service and refused to give Junnar and other fortresses to the Moghals, Muhammad of Bijapur helped Randaula Khan to overcome Shahaji. They blockaded Junnar and pursued Shahaji from Lohogad to Sinhgad, and from Sinhgad to the Konkan, where Shahaji agreed to enter Bijapur service and give up the forts of Junnar, Jivdhan, Chavand, Harshira, and Kondhana or Sinhgad.

[Adil Shahis and Moghals, 1656-1686.](#)

Of these Sinhgad seems to have passed to Bijapur and the rest to the Moghals. [Badshah Nama in Elliot and Dowson, VII. 589; Grant Duff's Marathas, 53.] Muhammad Ali treated Shahaji with honour, confirmed him in his estates in Poona and Supa, and, with the Bijapur minister Murarpant, employed him in settling the newly gained territory between the Nira and the Bhima. [Grant Duff's Marthas, 54, 65.] So strong a friendship sprang up between Murarpant and Shahaji, that, in the same year, when the settlement was completed, they led a joint expedition into the Karnatak, where the districts of Kolhar, Bangalur, Oskotha, Balapur, and Sera were afterwards made over to Shahaji. When Shahaji started with Murarpant for the Karnatak, he arranged that Shivaji and his mother Jijibai should live in Poona, and that his estates in Poona, which, in addition to Poona and Supa now included Indapur and Baramati in the east and the Mavals in the west, should be managed by a Brahman named Dadaji Kondadev. Dadaji managed Shahaji's estates with great success, continuing the system introduced by Malik Ambar. He was particularly successful in the Mavals or hilly west, where the people had fallen into great misery. He remitted

rents, found employment for the people as guards and messengers, and extirpated the wolves that infested the country. [East India Papers, IV. 420.]

North or Moghal Poona was also about this time (1636) improved by the introduction of Raja Todar Mal's revenue system, which consisted in ascertaining by experiments lasting through a long series of years the outturn of the land, fixing a share of the grain as the government share, commuting the grain share into a money payment estimated at one-fourth of the produce, and enforcing this one-fourth as a permanent rent. From the silver coin in which it was collected this settlement was known as the *tankha*. After twenty years of labour it was introduced into the Deccan by an able officer named Mnrshed Kuli Khan. [Grant Duff's Marathas, 57.] Murshed's system differed from Malik Ambar's, chiefly in being a permanent settlement while Malik Ambar's varied from year to year. [Grant Duff's Marathas, 66, 67; and Elphinstone's History of India, 514. Before the introduction of the silver *tankha* a copper *tankha* was in general use.] Another change about this time (1637) introduced in the Moghal parts of Poona was the introduction of the *Fasli* year. The *Fasli* year which was started by Akbar (1556-1605) was a solar year, whose era or initial date was the Hijra. The *Fasli* year began from the *mrig* or opening of the south-west monsoon early in June. [Grant Duff's Marathas, 56.] As no attempt was made to reconcile the *Fasli* or solar Musalman year with the lunar, the *Fasli* differed from the regular lunar Musalman year more than three years every century.

Shivaji's Rise, 1643-1680.

At Poona Dadaji built for Jijibai and her son Shivaji a large Mansion called Rang Mahal. He taught Shivaji, as a Maratha chief Ought, to be a good archer, shot, spearsman, and rider, and, as a Maratha ought, to be ignorant of all clerkship even of the mystery of writing his own name. He taught him the rules of his caste and raised in him a love for old Hindu religious and warlike stories. From about his sixteenth year (1643) Shivaji took great delight in the stirring fellowship of freebooters, and, in their society, stayed away from his home for days, nursing the hope of one day becoming independent. His kindly obliging temper made him popular with the Maratha gentry round Poona, and he was probably none the worse liked when reports got abroad, that, young as he was, he had a share in some large gang robberies in the Konkan. To wean him from these dangerous pursuits, Dadaji entrusted Shivaji with the management of his father's estates.

Shivaji's Rise, 1643-1647.

His favourite pastime was hunting in the western hills with his friends the Mavalis, to whom his skill and success as a hunter endeared him. He gained a thorough knowledge of those wild districts. He learned how easily, under the present careless management, the hill forts might be seized, and, if once seized how easily they might be held against all comers. The hill forts were easy to seize, because as the country round them was generally unhealthy, the Musalman garrisons were often withdrawn and the forts left in charge of an *amildar* or other local agent. Besides this, the Bijapur government was at peace with the Moghals, and the bulk of the regular Bijapur troops had been sent to the Karnatak. [Of these years of Shivaji's life, Khafi Khan the Musalman historian gives the following account. Shivaji became manager of the two estates of Poona and Supa, which at this time belonged to his father Shahaji. He looked carefully after his father's affairs. He was distinguished in his tribe for courage and intelligence. In that country where all the hills rise to the sky and the forests are full of trees and bushes, he had an inaccessible abode. Like other local chiefs, he set about building forts on the hills and in the plains mud forts called *gadhis*. Muntakbu-I-lubab in Elliot and Dowson, VII. 256-57.] In 1646, when he was nineteen years old, Shivaji took the hill fort of Torna in Bhor territory about twenty miles south-west of Poona, and in 1647 he took the small inaccessible peak of Rajgad about three miles south-east of Torna and began to strengthen it with the view of making it his headquarters. Shahaji wrote and blamed Shivaji for this lawless conduct, and Dadaji did all that advice could do to turn him from his purpose, but Shivaji, though he made many promises, continued unmoved. Soon after Dadaji fell ill. On his deathbed (1647) he sent for Shivaji, advised him to press on his plans of independence, to protect Brahmans cattle and cultivators, to guard Hindu temples, and to follow the fortune which lay before him. [Grant Duffs Marathas, 60; Wilks' South of India, I. 72-74.] On Dadaji's death Shivaji took complete charge of his father's estates. Soon after a messenger came from his father asking for the payment of arrears. Shivaji evaded payment, and at last told his father that the expense of managing his Deccan estates had become so great that in future he had better trust to his Karnatak revenues. Before his authority could be supreme in his father's estates, Shivaji had either to win over or to overpower two officers, Phirangaji Narsala who was in charge of Chakan and Baji Mohita the manager of Supa. Phirangaji he won over without much trouble. But, as Baji refused to listen to any proposals, Supa was surprised, he was made prisoner, and sent to Shahaji in the Karnatak. Shivaji's next acquisition was Kondhana hill. This he gained

by a large bribe to the Musalman commandant, took possession of it, and named it Sinhgad or the Lion's Den.

In 1647, about the time of Dadaji's death, the commandant of Purandkar died. As the families were friendly, Shivaji was asked to settle some points in dispute among the commandant's three sons. He went to the fort, persuaded the younger brothers at night to make their elder brother prisoner, and during the disturbance secretly filled the fort with his own Mavalis, and took it for himself keeping the brothers well disposed to him by the grant of lands and villages. Thus Shivaji without bloodshed secured the territory between Chakan and the Nira, It is *jagir* land, and Shahaji the holder of the land is in my power; if Shahaji does not object to let his son take his lands, what matters it to me. Thus perhaps Muhammad Adil Shah reasoned and devoted his thoughts to his two chief interests, his Karnatak conquests and his Bijapur buildings. [Grant Duff's Marathas, 61.]

Meanwhile Shivaji busied himself in gathering Mavalis and horsemen. His next exploit, his first open breach of peace with Bijapur, was in 1648, when he was twenty-one years old, the plunder of a rich caravan bringing treasure from Kalyan to Bijapur. The spoil was carried to Rajgad which was now Shivaji's head-quarters. This success was followed by the capture of Bhurap and Kangori in Kolaba, of Tung and Tikonain Bhor, of Koari in south-west Poona, and of Lohogad about six miles to the south-east and Rajmachi about ten miles to the north-west of Khandala. In the same year the Kolaba forts of Tala, Ghosala, and Rairi the modern Raygad were taken and Birvadi and Lingana were built. In Thana, Kalyan and all the forts in the neighbourhood were taken and several rich towns were plundered. In 1649, when for Shivaji's ravages Shahaji was imprisoned by Muhammad Adil Shah of Bijapur, Shivaji entered into a correspondence with the Moghal emperor Shah Jahan who agreed to admit Shivaji into the imperial service and to give him the rank of commandant of 5000 horse. Shahaji was released and Shivaji contrived to evade his promises by preferring certain claims on the revenues of Junnar and Ahmadnagar. In 1653, after an unsuccessful attempt on the part of Bijapur to seize him, Shivaji began to devise schemes for possessing himself of the whole of the Ghatmatha or hilly west Deccan and of the Konkan. In 1655 he caused the Hindu Raja of Javli in Satara to be murdered, took Eohira his fort, and built Pratapgad. Shivaji's principal minister at this time was Shamrajpant whom he now dignified with the title of *peshwa* and also gave him a high military command.

The Moghals, 1636-1720.

In the north of the Poona district, since 1636 Moghal power had remained unchallenged. In 1650 Prince Aurangzeb was appointed viceroy. He made Aurangabad his head-quarters and managed his charge with vigour and success. About 1657 Aurangzeb, who was planning the overthrow of his elder brother Dara Shekkoh, sent to ask Shivaji if he would enter his service. Shivaji pretended to be horror-struck at the proposed rebellion, treated the messenger with indignity, and ordered the letter to be tied to the tail of a dog. At the time Aurangzeb took no notice of this insult but it apparently lay at the root of his unceasing hatred of Shivaji. [Deccan, II. 7; Waring's Marathas, 63; Grant Duff's Marathas, 73.] At this time, apparently stirred by Shivaji's success against Bijapur, the Kolis of north-west Poona rose in rebellion. Kheni, the Sar Naik and many leading Koli chiefs agreed to try and shake off Musalman rule, and transfer their allegiance to some Hindu prince, probably Shivaji. A Moghal army was sent into the hills, the hill forts were strengthened and garrisoned, the people were hunted down and either made prisoners or slaughtered the Sar Naik and his clan were destroyed, and the prisoners were taken to Junnar and their heads cut off and piled into a pyramid and platform built over them which is still known as the Black Platform or *Kala Chabutra*. [Captain Mackintosh, Jour. Bom, Geog, Soc. I, 241-42.]

In 1657, with no further reason than that the state was weakened by the death of king Muhammad Adil Shah and that his successor Ali Adil Shah was a child, Aurangzeb declared war against Bijapur Shivaji took advantage of this war to increase his resources by plunder. In May 1657 he committed his first act of hostility against the Moghals. In a night attack he surprised and plundered Junnar, and carried off about £ 1100 (3 *lakhs* of *pagodas*) in cash, 200 horses, valuable cloth, and other articles. He escorted his booty as far as Poona, and then handed it to a party to be taken to Rajgad. From Poona Shivaji marched by unfrequented roads and surprised and partially plundered Ahmadnagar. He made great efforts to strengthen his cavalry. He bought horses from all quarters, engaged horsemen whom he could trust, began to employ Maratha *shiledars* or self-mounted troopers, and appointed a new master of horse, Netaji Palkar, a man of vigour and influence but cruel and unprincipled. The rapid success of Aurangzeb's advance on Bijapur marred Shivaji's plans. He sent one messenger after another praying for forgiveness, promising amendment, and offering to help Aurangzeb with a body of horse. Aurangzeb, who was suddenly called to Delhi by the news of his father's severe illness, agreed to pardon Shivaji, to enquire into his

hereditary claims, and to receive a body of 500 of his horse. In 1659 Shivaji sent a large force under Shamrajpant Peshwa against the Sidi of Janjira in the Central Konkan, but the Sidi defeated the Peshwa's army with great slaughter. Shamrajpant was recalled and Moro Trimal Pingle was named Peshwa in his place. A treaty was made with the Savants of Vadi in the South Konkan, under which Shivaji obtained one-half of the revenue of that state. In the same year, near Pratapgad Shivaji assassinated Afzul Khan the Bijapur general, who was sent to reduce him, and destroyed his army. Soon after this Panhala and Pavangad in Kolhapur fell to his officers, and Vasantgad in Satara was taken by Shivaji himself who levied contributions along the banks of the Krishna, and left a *thana* or garrison with a revenue collector in the mud fort of Battis Shirala. On Shivaji's arrival at Panhala the forts in the neighbourhood, both below and above the Sahyadris submitted, and Rangna and Vishalgad were taken by surprise. In the next month (December 1659) Shivaji plundered as far as Bijapur, levied contributions from market towns, and spread terror over the whole country. In 1660 Shivaji was engaged with the Bijapur troops, who retook the forts near Panhala except Rangna and Vishalgad. In January 1661 Shivaji took and plundered Rajapur in Ratnagiri and attacked the possessions of a local Maratha chief, the Dalvi of Shringarapur. During the rains he built a temple to the goddess Bhavani in the fort of Pratapgad, and from this time his religious observances became extremely strict. He chose the celebrated Ramdas Svami as his spiritual guide, and aspired to a high character for sanctity. He is even said to have offered all his territories to Ramdas Svami. The Svami had no need of lands but asked Shivaji to use the colour of his clothes in the Bhagva Jhenda or Saffron Banner. In the same year 1661 he made a rapid march across the country, and to avenge his father's wrongs, who, at the instance of the Bijapur government had been treacherously seized by Baji Ghorpade of Mudhol in 1649, surprised and killed Ghorpade with most of his relations and followers, and plundered and burnt Mudhol. The Savants of Vadi, who contrary to their engagements had taken an active part against him, Shivaji attacked and pursued, and afterwards received as vassals. Shivaji next built the forts of Rairi and Sindhudurg or Malvan, both on the Ratnagiri coast, and fitted out a navy. He strengthened Kolaba and Vijayadurg in Ratnagiri, and prepared vessels at all these places, Kolaba being his chief naval centre. On condition of being supplied with guns and warlike stores Shivaji did no harm to the Portuguese. Shivaji's power was now so great that the Bijapur minister entered into a secret compact with him, which was probably brought about by the intervention of his father Shahaji, who at this time visited Shivaji with the approval of the Bijapur government. Shivaji treated

his father with the greatest distinction. On hearing of his approach he went several miles to meet him, dismounted, and saluted him with the obeisance due by a servant to his sovereign. He insisted on walking by the side of his father's palanquin, and would not sit in his father's presence until repeatedly commanded. After some weeks spent in pleasure and in visiting the temple at Jejuri and other places in Shivaji's territory, Shahaji, highly gratified, returned to Bijapur, the bearer of presents from Shivaji to the king. From this time until Shahaji's death in 1664 Shivaji never attacked Bijapur, nor, when hostilities were renewed, was Shivaji the aggressor. Soon after Shahaji's death, Shivaji changed his capital from Rajgad to the inland Rairi in the Central Konkan, which he greatly strengthened and called Raygad. Shivaji now held the whole Konkan from Kalyan to Goa, and the Konkan Ghatmatha or hilly west Deccan from the Bhima to the Varna. His army of 50,000 foot and 7000 horse was much larger than his territory, which at its greatest breadth from Supa to Janjira did not exceed 100 miles, either required or could support. His power was formidable and the truce with Bijapur gave him the opportunity of turning it against the Moghals. In 1662, as Aurangzeb was longer and more busily employed in Northern India than was expected, Moro Trimal Pingle, Shivaji's minister or *peshwa* possessed himself of several strongholds north of Junnar. In the same year Netaji Palkar, Shivaji's master of the horse, who had swept the Moghal territory close to Aurangabad, returned safe to Poona. To punish this daring raid, Shaiste Khan, the new Moghal governor, marched from Aurangabad with a great force towards Poona and Chakan. Shivaji, who was in Supa, retired to Sinhgad; Supa was taken, and, in spite of much annoyance from Shivaji's horse, the Musalmans pressed on and took Poona. [Elliot and Dowson, VII, 261-263.] From Poona Shaiste Khan marched north to Chakan. The fort was held by Shivaji's old ally Phirangaji Narsala, and, in spite of a most skilful and vigorous attack, was defended with such courage that it did not fall till two months had passed and 900 of the besiegers were slain. When Phirangaji surrendered the Moghal general treated him with great respect and sent him in safety to Shivaji by whom he was praised and rewarded. Shaiste Khan placed Uzbek Khan in charge of Chakan, called Jafar Khan from Malwa to his aid, and marched after Shivaji. [Muntakhabu-I-Lubab in Elliot and Dowson, VII. 262 - 263.] In 1663, under Aurangzeb's orders, Raja Jasvantsing the Rajput prince of Jodhpur arrived with a large reinforcement. The fair season was far advanced and the whole army lay idle near Poona. Shaiste Khan, after taking several forts and strong places had gone to Poona and was living in the Rang Mahal which Dadaji Kondndev had built for Shivaji and his mother. In spite of the precautions which had been taken to prevent

armed Marathas entering Poona Shivaji determined to surprise the Moghals. He sent two Brahmans in advance to make preparations. One evening in April a little before sunset Shivaji set out from Sinhgad with a considerable body of foot soldiers. These he posted in small parties along the road, and took with him to Poona only YasajiKank, Tanaji Malusre, and twenty-five Mavalis. [According to Khafi Khan, Shivaji, beaten and dispirited, had retired into mountains difficult of access, and was continually changing his position. Elliot and Dowson, VII. 269. See Waring's Marathas, 74. 75.] The Brahmans had won over some of the Marathas in Shaiste Khan's employ. They arranged that two parties of Marathas should enter the town one as if a wedding party the other as if bringing prisoners, and that Shivaji and his twenty-five should past in with them. Shivaji's party passed in safety, put on the armour, and, at the dead of night, by secret ways reached the Khan's house. They entered through the cookhouse, killed the cooks, and, as they were cutting through a built-up window, the alarm was raised. Three of the Mavalis forced themselves into Shaiste Khan's room, but two fell into a cistern of water and the third, though he cut off Shaiste Khan's thumb, was killed by his spear. Two slave girls dragged Shaiste Khan to a place of safety. [This is Khaif Khan's account in Elliot and Dowson, VII 270-1. According to Grant Duff (Marathas, 88) Shaiste Khan's fingers were cut off as he was letting himself out of a window.] The Marathas killed many of his followers, cut to pieces some of the women, and cut off the head of an old man whom they took for Shaiste Khan. The kettle-drums beat an alarm and the Marathas retired, lighting torches and burning bonfires as they went up Sinhgad hill in derision of the Moghals. [Khaif Khan in Elliot and Dowson, VII, 270-271.] Next morning a body of Moghal horse galloped towards the fort. They were thrown into confusion by an unexpected fire of musketry and retired in disorder. A party of Shivaji's horse fell on them and they took to flight, the first time that Moghal cavalry had been chased by Marathas. The surprise in Poona and other small reverses filled Shaiste Khan with the suspicion that Jasvantsing was in league with Shivaji. The dissensions of their leaders crippled the Moghal army, and both Shaiste Khan and Jasvantsing were recalled. Jasvantsing was afterwards allowed to remain as second in command to Prince Sultan Muazzam who was appointed viceroy. Jasvantsing made a feeble attempt to invest Sinhgad, but did not press the siege. Strong detachments were left at Chakan and Junnar and the main body of the army retired to Aurangabad. About this time Shivaji went to Poona to hear a *katha* or song-sermon by the Vani saint Tukaram and narrowly escaped being made prisoner by the garrison of Chakan. [Grant Duffs Marathas, 89. According to the Marathas Shivaji escaped by the help of the god Vithoba of Pandharpur.] In 1664, after his

return from sacking Surat, Shivaji heard of the death of his father Shahaji. [Shahaji had continued faithful to Bijapur and had been allowed to keep his estates in the Karnatak and the fort of Arni, Porto Novo, and the territory of Tanjor. Grant Duff's Marathas, 89 - 90.] He came to Sinhgad and spent some days in performing his father's funeral rites. He then took the title of *Raja*, struck coins in his name, and spent some months at Raygad hill in Kolaba arranging his government. His fleet scoured the coast and enraged the Musalmans by seizing some holy Mecca pilgrims. In August Shivaji surprised and plundered the town of Ahmadnagar and swept across the country east to Aurangabad. In October the Bijapur troops broke the truce and made a vigorous effort to regain the Konkan. Shivaji seemed to be everywhere and ready at all points. He met the Bijapur army and defeated them with great loss. He burnt Vengurla in Ratnagiri, and hastened to Sinhgad to watch the Moghals who had sent a strong reinforcement to a camp at Junnar. Finding the Moghals did not intend to act on the offensive, he returned to the coast, embarked from Malvan with 4000 men, plundered the rich town of Barcelor about 130 miles south of Goa, sailed back to Gokarn in North Kanara, scoured the country, re-embarked, and returned to his capital.

In February 1665, Jasvantsing and Sultan Muazzam were recalled, and Mirza Raja Jaysing another Rajput prince and Diler Khan were sent to conduct the war against Shivaji. They reached the Deccan early in April 1665 and lost no time in beginning operations. Jaysing went to Poona, arranged its affairs, and spread abroad his forces ravaging the country and attacking Shivaji's forts. He himself went to attack Purandhar, about twenty miles south-east of Poona, one of the most noted fortresses in the Deccan. Diler Khan, who was sent in command of the advanced force, began the siege and invested both Purandhar and the neighbouring fort of Vajragad or Rudra Mahal. Jaysing left Diler Khan to prosecute the siege of Purandhar and blockaded Sinhgad. [Grant Duffs Marathas, 92; and Elliot and Dowson, VII. 272.] The commandant of Purandhar was Baji Prabhu, the *deshpandia* of Mahad in Kolaba, and the fort was strongly garrisoned by Mavalis and Hetkaris that is Ratnagiri Marathas. The *deshpandia* maintained his post with bravery and ability. He disputed every point of the approaches, but his out-posts were driven in, and Diler Khan began to mine a rock under one of the towers of the lower fort. The garrison made frequent sallies, and repeatedly drove off the miners, but they were at last firmly lodged under cover. After numerous failures they succeeded in shattering the rock so as to enable them to attempt an assault. The assailants gained the lower fort, and, while the garrison was retiring to the upper fort, began to plunder careless or ignorant of

their danger. The Hetkari marksmen from above opened so destructive a fire that many of the assailants sought shelter in every corner and others ran outside for cover. The Mavalis headed by their commander sallied out, attacked the Moghals sword in hand, killed all that opposed them, and drove them down the hill. Diler Khan, who was seated on his elephant near the hill foot, seeing the flight of his men, bent his bow, called on a body of Pathans about him to advance, and rallying the fugitives pushed his elephant forward. The garrison, like all Marathas daring in success, closed with his men and the powerful Afghans recoiled from the swords of the Mavalis. Diler Khan, marking the conspicuous conduct of their leader, with his own hand pierced him with an arrow, and killed him on the spot. On the loss of their leader the garrison fled nor stopped until they reached the upper fort. The Moghals again took possession of the lower fort, but the fire from above once more forced them to leave it. After this failure Diler Khan, considering the northern face impregnable, determined on attempting to escalate the small detached fort of Vajragad or Rudra Mahal, on the north-east corner of Purandhar which commands a great part of the main works. The attempt succeeded and guns were brought to breach the upper fort. The setting in of the rains greatly retarded operations. The Moghal artillery was bad, and, although they continued firing for weeks, they made little impression on the defences. The garrison became dispirited and sent notice that they could hold out no longer. They would have left the fort, but Shivaji, who, after his successes at sea, had at last returned to Raygad, asked them to hold on until he should send them word to retire. [Khafi Khan's account (Muntakhbu-l-Lubab in Elliot and Dowson, VII. 272), while in the main agreeing with the Maratha version, gives some interesting additional details. The garrison of Purandhar made a vigorous defence and Jaysing arrived with his son Kesarising. After a bastion had been blown up on one side a panic seized the defenders of the foot of the hill. The besiegers attacked them and succeeded in making their way to the top of the hill when the defenders called for quarter which was granted them by the Raja and Diler Khan. The two commandants waited upon Diler Khan, and were sent to the Raja who disarmed the garrison and took possession of the forts. Eighty men, horsemen, infantry, and sappers were lost in the siege and more than a hundred were wounded. After the conquest of the two forts Raja Jaysing sent Daud Khan with 7000 horse to plunder and lay waste the country which Shivaji had won by force and violence. Great efforts were made on both sides, and for five months the imperial forces never rested from harassing and fighting the enemy. At Shivapar which was built by Shivaji and at the forts of Kondhana or Sinhgad eight miles south of Poona, and Kanvari (Koari) not one trace of cultivation was left, and numbers of cattle were taken.

On the other hand, the Marathas' sudden attacks, their brilliant successes, their night assaults, their seizure of the roads and passes, and the firing of the forest, severely tried the imperial forces, and men and beasts perished in numbers. The Marathas had also suffered heavy losses and no longer had heart to face the imperial troops. The fort of Rajgad about three miles south-east of Torna and about fifteen south-west of Poona, which Shivaji himself held and the fort of Kondhana or Sinhgad in which were his wife and his mother's relations were both invested and hard pressed. The roads on all sides were blockaded and Shivaji knew that he could not rescue his family and that if Sinhgad was taken they would be liable to suffer the consequences of his evil deeds. Accordingly he sent some intelligent men to Raja Jaysing, begging forgiveness, promising the surrender of several forts which he still held, and proposing to visit the Raja. The Raja doubting his sincerity, ordered that the attack should be pressed with renewed vigour. At last two confidential Brahmans came from Shivaji and with the most binding oaths confirmed his expressions of submission and repentance. The Raja promised him security of life and honour on condition that he waited on the emperor and agreed to enter his service. He also promised him high station or *mansab* in the imperial service and made preparation for receiving him as became his rank. Shivaji approached with great humility. The Raja sent his agent or *munshi* to meet him and he also sent armed Rajputs to guard against treachery. The *munshi* carried a message to say that if Shivaji submitted frankly, gave up his forts, and agreed to obey, the emperor would grant his petition for forgiveness. If he did not accept these terms he had better return and renew the war. When Shivaji received the message he said with great humility that he knew his life and honour were safe if he made his submission. The Raja then sent a person of high rank to bring him in with honour. When Shivaji entered the Raja rose, embraced him, and seated him near himself. Shivaji then with thousand signs of shame clasped his hand and said ' I have come as a guilty slave to seek forgiveness, and it is for you either to pardon or to kill me at your pleasure. I will make over my great forts with the country of the Konkan to the emperor's officers, and I will send my son to enter the imperial service. As for myself, I hope that after the interval of one year, when I have paid my respect to the emperor, I may be allowed, like other servants of the state who exercise authority in their own provinces, to live with my wife and family in a small fort or two. Whenever and wherever my services are required, I will, on receiving orders, discharge my duty loyally.' The Raja cheered him and sent him to Diler Khan. After the siege was stopped, 7000 persons, men women and children, came out of Sinhgad fort. All that they could not carry became the property, of the

government and the forces took possession of the fort. Diler Khan presented Shivaji with a sword. He took him back to the Raja who presented him with a robe, and renewed his assurances of safety and honourable treatment. Shivaji, with ready tact, bound on the sword in an instant, and promised to render faithful service. When the question about the time Shivaji was to remain under parole, and of his return home, came under consideration, Raja Jaysing wrote to the emperor, asking forgiveness for Shivaji and the grant of a robe to him, and awaited instructions. A mace-bearer arrived with the *farman* and a robe, and Shivaji was overjoyed at receiving forgiveness and honour.] Shivaji sent Raghunathpant Shashtri to Jaysing, who agreed to Shivaji's proposal to enter the Moghal service and give up part of his territory.

Moghals. Shivaji, 1665.

At the same time Jaysing placed no trust in Shivaji's sincerity until the Brahman convinced him that Shivaji did not intend to deceive him. Jaysing then desired him to assure Shivaji on the honour of a Rajput that he might rely not only on the emperor's pardon but on his favour and protection. While this negotiation was pending, Shivaji, with a slender retinue, in the month of July, proceeded from Pratapgad in Satara to Jaysing's camp before Sinhgad, where he announced himself as Shivaji Raja. Jaysing sent his son Kiratsing to lead him to his presence with all the honours due to his rank. The whole camp pressed forward to see this celebrated hero and on his approach Jaysing advanced from his tent, met, and embraced him. [Scott's Deccan, II. 11.] Jaysing seated Shivaji on his right hand, treated him with respect and kindness, and repeated the assurances sent by Ragunathpant. After some conversation in the humblest strain on the part of Shivaji, he was allowed to retire to tents near those of Jaysing. Next day Shivaji went to visit Diler Khan, who was still before Purandhar and was exceedingly mortified that he was not made privy to the negotiation. He threatened to persevere in reducing Purandhar and putting every man to the sword. This was but a threat, and he was soothed and gratified by Shivaji's presenting the keys of the gate with his own hand, telling him that all his forts and country were his, that he merely sought pardon, that experience had satisfied him that it was folly to resist such a soldier as Aurangzeb could boast of, and that now his one hope was to be enrolled among the servants of the empire. An armistice took place as soon as Shivaji came into camp. After several conferences, subject to the emperor's approval, it was agreed that Shivaji should give up whatever forts or territory he had taken from the Moghals. Of thirty-two forts taken or built by him in the

territory which had belonged to the Nizam Shahi government, he gave up twenty to Jaysing, among which were Purandhar and Sinhgad with all their dependent districts. According to Khafi Khan Shivaji gave twenty-three out of thirty-five forts with a yearly revenue amounting to £400,000 (10 *lakhs* of *huns* or 40 *lakhs* of rupees). [Elliot and Dowson, VII.275.] The territory belonging to the remaining twelve forts, [The twelve forts were: Rajgad, Torna, Raygad, Lingana, Mahadagd, Balagad, Ghosala, Isvadi, Pali, Bhurap, Koari, and Udedurg.] of which Koari and Isvadi were in Poona, estimated to yield a yearly revenue of about £40,000 (*Pagodas* 100,000) and all the rest of his acquisitions, were to form his estate which he was to hold from the emperor, and his son Sambhaji then in his eighth year, was to receive the rank of a commander of 5000 horse. The most remarkable part of the agreement was Shivaji's proposal to be allowed assignments on Bijapur, estimated at about £180,000 (*Pagodas* 500,000), being a fourth and a tenth of the revenue, termed by him the *chauth* and *sardeshmukhi*, of certain districts above the Sahyadris, the charge of collecting which he took upon himself So eager was Shivaji to obtain the imperial authority for this arrangement, that it was granted on condition he offered to pay a tribute or *peshkash* of about £1,400,000 (*Pagodas* 4,000,000) by yearly instalments of about £110,000 (*Pagodas* 300,000), and to keep an additional body of troops. Shivaji's proposals, according to custom, were sent to the emperor in the form of a petition. On Jaysing's suggestion Shivaji intimated his desire to kiss the royal threshold. Aurangzeb agreed to Shivaji's proposal on condition that he and his troops went with Raja Jaysing against Bijapur and that he paid the first instalment of the promised tribute. According to this agreements, Shivaji co-operated with Jaysing, and the combined army, including 2000 horse and 8000 infantry belonging to Shivaji, marched against Bijapur about the month of November. In the operation which followed, Phaltan was reduced, the fort of Tathavad escalated, and all the fortified places on their route were taken possession of by Shivaji and his Mavalis. In consequence of these service Aurangzeb invited Shivaji to court, promised to confer on him great rank and honour, and to allow him to return to the Deccan. In 1666 Shivaji after visiting all his forts and holding a council of his ministers at Raygad, went to Delhi with his son Sambhaji. At Aurangzeb's court he was treated with indignity and was watched as a prisoner. In the Deccan Jaysing had not the means to garrison many of the forts surrendered by Shivaji. He placed strong garrisons in Lohogad, Sinhgad, and Purandhar; a few men were left in such of the others as had supplies of provisions; and of the rest, he ordered that the gates should be burnt, and such part of the defences destroyed as could be hastily thrown down. After Shivaji's escape from

Delhi, in December 1666, he lost no time in regaining his forts. Moropant Peshwa repaired them, replaced the garrisons, and drove out the Moghals.

Moghals, Shivaji, 1667.

In 1667, by the representations of the new viceroy Sultan Muazam, who was accompanied and much swayed by Jasvantsing a staunch Hindu, Shivaji obtained from Aurangzeb the title of Raja, a confirmation of Sambhaji's rank, and land in Berar. The districts of Poona, Chakan, and Supa were also restored to Shivaji, but the commanding forts of Sinhgad and Purandhar were kept by the Moghals. Though Aurangzeb at first agreed to Sultan Muazzam's proposals in favour of Shivaji, he afterwards showed marked hostility to Shivaji. Accordingly Shivaji determined as soon as possible to gain the strongly garrisoned forts of Sinhgad and Purandhar which blocked his communication with Poona and Chakan. Sinhgad, Shivaji justly considered one of the strongest forts in the country, and, as the commandant, Ude Ban, was a celebrated soldier and had a choice Rajput garrison it was supposed impregnable. Security had made the Sinhgad garrison somewhat negligent, and Shivaji laid a plan for taking the place by surprise. Tanaji Malusre, whom he consulted, offered to surprise Sinhgad if he was allowed to take his younger brother Suryaji and 1000 picked Mavalis. Accordingly, in February 1670, one thousand Mavalis under Tanaji and Suryaji started from Raygad in Kolaba, and, taking different paths, met near Sinhgad. Tanaji divided his men into two parties. One party under his brother Suryaji he left at a little distance with orders to advance if necessary; the other party under his own command lodged themselves undiscovered at the foot of Sinhgad rock. When it grew dark, choosing the sheerest part of the rock as the least likely to be guarded, one of the Mavalis climbed the rock and made fast a ladder of ropes up which the rest crept one by one. Each as he gained the top lay down. In spite of their care before 300 of them had reached the top, some movement drew the attention of the garrison to the Mavalis. One of the garrison drew near and was silently slain by an arrow. Still the alarm spread, and the noise of voices and of a running to arms showed Tanaji that a rush forward was his only chance of a surprise. The Mavalis plied their arrows in the direction of the voices, till a blaze of blue lights and torches showed the Rajputs armed or arming, and discovered their assailants. In the desperate fight that followed Tanaji fell. The Mavalis lost heart and were running to the ladder, when Suryaji, Tanaji's brother, met them with the reserve. He rallied them, asked them if they would leave their leader's body to be tossed into a pit by Mhars,

told them the ropes were broken and there was no retreat; now was the time to prove themselves Shivaji's Mavalis. They turned with spirit, and, shouting their war cry *Har Har Mahadev*, dashed on the garrison, and, after a desperate fight in which 300 Mavalis and 500 Rajputs were slain or disabled, gained the fort. A thatched house turned into a bonfire flashed the news to Shivaji. Besides those who were slain or wounded in the fort, many Rajputs who ventured over the crest of the rock were dashed to pieces. Contrary to his custom, Shivaji gave every man of the assailants a silver bracelet and honoured their leaders with rich rewards. He grieved over Tanaji Sinhgad the lion's house is taken, but the lion is slain: I have gained a fort and lost Tanaji. Suryaji, Tanaji's brother, was made commandant of Sinhgad, and within a month (March 1670) again distinguished himself by escalating Purandhar. [Grant Duff's Marathas, 94.]

Moghals. Shivaji, 1670-1675.

Mahuli and Karnala in the Konkan were also taken, and the whole province of Kalyan was recovered by the end of June. In July (1670) Lohogad was surprised and taken, but an attempt on Shivner failed. [Grant Duff's Marathas, 109, 110.] Next year (1671) Diler Khan, who was at Junnar with a considerable Moghal force, retook Lohogad and captured Chakan. [Grant Duff's Marathas, 110] In 1674, after great successes in South Gujarat, Khandesh, Golkonda, Satara, the Bombay Karnatak, and North Kanara, Shivaji was crowned with great pomp at Raygad in Kolaba. At the time of his crowning Shivaji is described as forty-seven years of age, of a handsome and intelligent countenance, and for a Maratha fair in skin. His eye was keen, his nose long aquiline and somewhat drooping, his beard trim and peaked, and his moustache slight. His expression was rapid and resolute, hard and feline. [Mr. Douglas from the Vignette in Orme's Historical Fragments. Scott Waring (Marathas, 87-88) gives the following details: Shivaji was short and dark with bright piercing eyes, an active body, and well-governed temper. He was religious above his countrymen. He was good father to a bad son. Though he possessed high talents as a soldier, he was fonder of cunning than courage and of dissimulation than wisdom.]

Junnar, 1673.

In 1675 Shivaji made another unsuccessful attempt on Shivner his birth-place, which was never destined to fall into his hands. [Grant Duff's Marathas, 119.] About this time the services of Fryer, the English physician and traveller, were sought by the Moghal governor of

Jeneah that is Junnar. Fryer started from Bombay on St. George's Day, 23rd April 1673, and passed through Kalyan and Murbad which was all wasted by Shivaji and the Moghals, up the terribly steep Avapa pass or Oppagaot. [Fryer's party included four Moor peons, a Portuguese, his own servants, a Brahman linguist, a horsekeeper, eight palanquin-bearers, a dozen *farasis* that is lumber or baggage-carriers, and a Turkish horse, East India and Persia, 123.] At the top of the pass was a bad starvling town which, he calls Oppagaot. There was a fort or castle on a hill top, and near the head of the pass a *subhedar* or customer, blown up with the confidence of half a dozen hillmen. From the top of the pass Fryer entered a deep valley where he met a caravan of oxen laden with provisions which had hardly escaped the Moghal army which was not far off. Fear of the villainy of Shivaji's men made Fryer's guide use great haste, and by ten at night he had travelled twenty miles (10 *kos*) to Ambegaon. In Ambegaon there was no one but a single *fakir*; the rest had fled from a party of Moghal horse. As they could get nothing to eat but a few green figs, Fryer's people pressed on through three or four wretched villages, to Beelseer or Bilsar three miles south-west of Junnar. Here his people rested as they found some provisions in a wretched hamlet which was liable to continual pillaging at the hands both of the Moghals and of the Marathas, and bore the pillaging well because it was in the condition of having little or nothing to lose. Next day, the last of April, he went on to Junnar the frontier town of the Moghals, for many years the seat of war. There was a castle at Junnar and some palaces with gardens, and the governor was in command of 17,000 horse and 3000 foot. The governor of the city and district was different from the commandant of Shivner fort who never left the hill top. Junnar city and the fort in the plain were ill-prepared to stand a siege. The Moghals were encamped there rather than settled, and, when Shivaji came in force, they retired speedily to the main army under Bahadur Khan who had a host of 40,000 horse at Pedgaon three days journey off in Ahmadnagar on the Bhima. Fryer, in English interests, tried to persuade the governor of the value of opening a trade with Bombay through which the Deccan might be supplied with Arab and Persian horses. To do this it was necessary that the Konkan should be cleared of Shivaji's troops. The governor made light of Shivaji, but seemed little inclined to drive him out of the Konkan, either because he knew it was more difficult to do than he pretended, or, because, if Shivaji was driven out, the excuse for keeping up a large army and therefore his employment and the source of his revenue would cease. [Fryer explains why the governor was so disinclined to reduce his army. He kept only half the nominal muster of men and drew the pay of the rest, dividing his profits with the notaries who were sent by Aurangzeb to see that no frauds were

committed. The same practice was followed by the under-officers. Every one had their snips verifying the proverb, 'Half the king's cheese goes in parings.' The grandees of the army were mounted on Persian Arab or Turkish steeds; the lower officers rarely got more than the race of the country which were fiery and mettlesome, but very flashing probably because the officers pinched their horses' bellies to put into their own. There were many Hindus in the Moghal army and many Musalmans in Shivaji's army, as they thought not of their country but whose salt they ate. The Moghal army was chiefly Moghal cavalry and Gentoo infantry with matchlock muskets. Their pay was fourteen months behind hand. Still they stayed, for they were sure of something with ease, while Shivaji's rule was the freebooter's rule, No plunder no pay Fryer's East India and Persia, 139,141.] When the rains began to fall cotton was planted in the fields about Junnar. The land also yielded wheat in abundance and other grain, though the husbandmen's crops were often burned by those mountain-foxes the Marathas. It was not safe to move about Junnar in small parties: troopers were often sent home disrobed and dismounted. Except Shivner most of the hill forts were in Shivaji's hands. In a still night many of his garrisons might be heard by voice and more by trumpet. The government of Junnar was like the government of all Moghal cities. The walls were broken but the gates remained. Disorder had scared trade, though the town was well placed and furnished with coarse calicoes, fine lawns, and plenty of cotton land. The ploughmen and weavers had followed the traders. A rich craftsman or landholder was not to be heard of in seven or eight days' journey. The markets had little but provisions which the rulers compelled the country-people to bring in, and sometimes took them by force by reason of the general poverty reigning among them. Fryer returned to Bombay by the Nana pass, a far shorter and easier way than he came. Between Junnar and the head of the pass he went by three of Shivaji's castles. It was doubtful if the Moghals could pass by that way.

During the last four years of his life (1677-1680) the success of his famous expedition to the Madras Karnatak greatly increased Shivaji's power.

[Moghals, Sambhaji. 1680-1689.](#)

On Shivaji's death on the 5th of April 1680, Sambhaji his son and successor showed some of his father's vigour and skill in war. [At the time of his death, Shivaji held the Konkan from Gandevi in Surat to Phonda in Kolhapur, except the small possessions of the Portuguese, the English and the Sidi. He had posts in Kanara and great possessions

in the Madras Karnatak and in Tanjor. He held the West Deccan from the Hiranyakeshi in Belgaum to the Indrayani in Poona, besides strong points in Ahmadnagar, Nasik, and Khandesh. In Raygad he had several millions of cash besides valuable goods.] He then fell into a life of pleasure and vice, wasting in dissipation the wealth which his father had amassed. Kalusha, his friend and councillor, raised the land rent by levying many fresh cesses. Still the receipts fell short of the former rental. The managers of districts were removed, the revenue was farmed, many landholders fled, and speedy ruin threatened Sambhaji's territories. [Grant Duff's Marathas, 141.]

In 1682 to ravage the Konkan a body of Moghal horse under Husan Ali Khan advanced from Ahmadnagar by the route of Junnar and descended the Sahyadris. In 1684, Aurangzeb issued orders to levy a poll tax or *jizya* on all non-Muhammadan subjects. [Grant Duff's Marathas, 145.] In 1685. Aurangzeb ordered Khan Jahan to place posts or *thanas* in the country between Junnar and Sinhgad. Khan Jahan took Poona and the country round, and appointed Khakar Khan as, governor or *foujdar*. [Grant Duff's Marathas, 148.] In the same year (1685) a body of troops stationed under Ghazi-ud-Din at Junnar was directed to move towards Ahmadnagar. The Marathas sized this opportunity and made a rapid march northwards and plundered Broach, Aurangzeb's rebel son Sultan Akbar, whom Sambhaji treated with the greatest respect, instigating if not leading the enterprise. He was intercepted near Chakan and defeated by the Moghal forces. [Scott's Deccan, II. 70.] In 1686 Bijapur fell and the Adil Shahi dynasty came to an end. In 1689 Aurangzeb's camp moved up the Bhima, from Akulj in Sholapur and cantoned at Tulapur at the meeting of the Indrayani and the Bhima, sixteen miles north-east of Poona. While Aurangzeb was camped at Tulapur, Takarrib Khan, who had surprised Sambhaji and his favourite Kalusha at Sangameshvar in Ratnagiri, arrived with his prisoners. The Marathas made no effort to rescue Sambhaji. Kalusha's oppression and Sambhaji's misconduct had made them hateful to the bulk of the people, and even had his army been disposed to undertake any enterprise in his favour, its loose and disordered state would probably have prevented the attempt. When the prisoners were brought close to the imperial camp they were bound and set upon camels. His turban was taken off Sambhaji's head, drums and other noisy music sounded before him and thousands flocked from all sides to see his entry into the camp. The prisoners were shown to Aurangzeb and ordered into confinement till their sentence was determined. Some of the Moghal nobles suggested that Sambhaji's life should be spared as a means of inducing his troops to surrender the forts; Aurangzeb himself seemed inclined to this course.

But Sambhaji, roused to a sense of his disgrace and stung with shame and remorse, expected and wished for nothing but death, and made use of every epithet of abuse to induce some rash soldier to kill him. In this frame of mind when Aurangzeb sent him a message offering life on condition of his becoming a Musalman, Sambhaji answered: Not if you give me your daughter in marriage, and ended by cursing the Prophet. The enraged emperor ordered a red-hot iron to be drawn across his eyes, his tongue to be cut out, and his head to be severed from his body. These orders were publicly carried out in the camp at Tulapur about the beginning of August 1689. [Grant Duffs Marathas, 159-60; and Orme's Historical Fragments, 164.]

[Rajaram, 1690.](#)

After Sambhaji's execution Rajaram, Sambhaji's younger brother, was declared regent during the minority of Sambhaji's son Shivaji, afterwards known as Shahu. In 1690 Raygad fell to the Moghals and young Shivaji and his mother Soyrabai were taken prisoners. Rajaram who was moving from place to place escaped to Ginji in the Karnatak and from Ginji managed his Deccan affairs. Rajaram remained in Ginji till 1698, when he was forced to flee to Vishalgad in Kolhapur. From Vishalgad in 1699, Rajaram, joined by Parsaji Bhonsla, Haibatrav Nimbalkar, Nimaji Sindia, Athavle, Samsheer Bahadur, and other Maratha commanders, proceeded with a greater force than Shivaji ever commanded, and passed through Gangthadi, Nander, Berar, and Khandesh claiming *chauth* and *sardeshmukhi*. When he had completed his tour, Rajaram left Khandesh in Dabhade in Baglan or North Nasik, Nimaji Sindia with the title of Sarlashkar in Khandesh, Parsaji Bhonsla with the title of *Senasaheb Subhe* in Berar, and Haibatrav Nimbalkar in Gangthadi to collect, as was said, the outstanding balances due to the Raja.

[Tarabai, 1700.](#)

In February 1700, Rajaram took shelter in Sinhgad, and died one month later from inflammation of the lungs brought on by violent exertion. When Rajaram died leaving only widows and infants, the power of the Marathas seemed at an end. But Tarabai, the elder widow, with the aid of Ramchandrapant Amatya, Shankraji Narayan, and Dhanaji Jadhav Senapati assumed the government, seated her son Shivaji a boy of ten on the cushion of state, and placed Rajasbai the younger widow in confinement. Tarabai did not fix her residence in any one fort but moved from place to place as seemed advisable [According to Khafi Khan Tarabai won the heart of her officers and

took vigorous measure for ravaging the imperial territory. In spite of all Aurangzeb's struggles and schemes, campaigns, and sieges, the power of the Marathas waxed instead of waning. They penetrated into the old imperial territories, plundering and destroying wherever they went. In imitation of the emperor, who, with his army and enterprising nobles was staying in the Deccan mountains, Tarabai's commanders cast the anchor of permanence wherever they penetrated, and having appointed *kamaishdars* or revenue collectors, passed the time to their satisfaction with their wives and children, and tents, and elephants. Their daring went beyond all bounds. They divided all the districts or *parganas* among themselves, and, following the practice of the imperial rule, appointed their *subhedars* or provincial governors, *kamaishdars* or revenue collectors, and *rahadars* or toll collectors. [Khafi Khan Muntakhbu-I-Lubab in Elliot and Dowson, VII. 373-375.] Between 1700 and 1703, Aurangzeb besieged Sinhgad. After a three and a half months siege, the fort was bought from the commandant and its name changed to Bakshindabaksh or God's Gift. The army halted for a month at Poona and the neighbouring villages. we

Moghals. Tarabai, 1700.

At Poona prince Muhiul-Mulk the son of Kam Baksh, the son of Aurangzeb, died and Aurangzeb changed the name of Poona to Muhiabad. From Poona the Moghal army marched against Rajgad in Bhor, and by 1705 Purandhar was taken. [Khafi Khan Muntakhbu-I-Lubab in Elliot and Dowson, VII, 373; and Grant Duff's Marathas, 177.] In 1705, after halting 7½ months near Junnar, the emperor quitted the neighbourhood of Poona and marched towards Bijapur. [Grant Duff's Marathas, 178; Elliot and Dowson, VII. 379.] As soon as the Moghal troops withdrew Shankraji Narayan Sachiv, the chief manager of the country round, retook Sinhgad and some other places. [Grant Duff's Marathas, 180.] The loss of Sinhgad and of Panhala in Kolhapur was a great grief to Aurangzeb. It increased the illness from which he was suffering and from which he recovered very slowly. Zulfikar Khan was sent to retake Sinhgad, and, before his departure the emperor committed Sambhaji's son Shahu to his charge and Zulfikar tried to bring the Marathas to his side by sending letters from Shahu as their lawful prince. From want of supplies Sinhgad yielded to Zulfikar, but, as soon as he retired, from the same cause, it was speedily retaken by Shankraji Narayan.

[Shahu's Restoration, 1707.](#)

In 1707 on the occasion of Shahu's marriage with the daughters of the Jadhav of Sindkhed and of Sindia the *patil* of Kinnarkhed, Aurangzeb conferred on him Indapur and Supa in Poona with other districts.

[Grant Duff's Marathas, 184. On this occasion Aurangzeb among other presents to Shahu gave him a sword he had himself frequently worn, and restored two swords which Shahu's attendants had always urged Shahu to recover. One of these was Shivaji's famous Bhavani, and the other the sword of Afzul Khan the murdered general of Bijapur all of which were taken at Raygad in 1690 These swords were in the possession of the Raja of Satara in 1826, Ditto.] Tarabai and her ministers took advantage of the absence of the main body of the Moghal army. Dhanaji Jadhav defeated Lodikhan the commandant of Poona, and retook Chakan, and the Marathas rapidly occupied as well as plundered the country. In the same year (1707) Aurangzeb died, and steps were taken to release Shahu. On his arrival in Poona means were successfully employed to detach Dhanaji from the cause of Tarabai. An action took place at the village of Khed twenty-two miles north of Poona. in which the Pratinidhi was not supported by Dhanaji and was obliged to fly to Satara. Dhanaji joined Shahu and proceeded towards Chandan-Wandan in Satara. Shahu seized the families of all the men of rank who were acting against him; and summoned Shankraji Narayan the Pant Sachiv to deliver Purandhar which he had taken shortly before; but Shankraji did not obey. In 1711, as he still adhered to the cause of Tarabai, Shahu determined to reduce Shankraji Narayan's territory, which, as it included Rajgad Shivaji's first capital, was considered the centre of Maratha rule. An army was sent towards Poona and took Rajgad. Shahu was spared the great labour of besieging the Pant Sachiv's other forts by the news that Shankraji had drowned himself, it was said, out of remorse because he had bound himself by oath to Tarabai to fight against his lawful prince. [Shankraji performed the *jalasamadh* or water-burial by sitting tied to a wooden raft which floated on empty jars pierced with holes. As the jars filled the raft sunk and the person seated on the raft was drowned. Hindu devotees were rather partial to this form of death. Grant Duff's Marathas, 186 foot.] Shahu with characteristic conciliation sent robes of investiture to Shankraji's son Naro Shankar a child of two years old and confirmed his *mutalik* or deputy in that post. The Pant Sachiv's party never again swerved from their allegiance to Shahu. [Grant Duff's Marathas, 189.]

Moghals. Shahu, 1707-1717.

In March 1708 Shahu was established at Satara, and in 1710 Tarabai with her son Shivaji [In January 1712 Shivaji, the son of Tarabai, who

was of weak mind, died of small-pox. On his death Tarabai was removed from the administration, and Sambhaji the son of Rajasbai the younger widow of Rajaram was appointed in her stead. Tarabai and Bhavanibai her son's widow, who is said to have been pregnant at the time of her husband's death, were put into confinement.] went to Kolhapur and established herself there. Chandrasen Jadhav, who had been appointed *senapati* or commander-in-chief on his father Dhanaji's death, was sent from Satara with a considerable army to levy the *chauth*, *sardeshmukhi*, and *ghasdana* from the Moghal districts. On this occasion Chandrasen was attended by his father's agent or *karkun* Balaji Vishvanath, [Balaji Vishvanath was the *kulkarni* or village accountant of Shrivardhan in Janjira, a village then claimed by the Sidi from which in consequence of some intrigue connected with the Sidi's enemy Angria he had fled to Sasvad in Poona, and was recommended to Dhanaji Jadhav by Abaji Purandhare and Parashuram Trimbak.] the founder of the Peshwas of Poona who was now charged with collecting the Raja's share of the revenue, a position of control very galling to Chandrasen. A dispute about a deer which had been run down by one of Balaji's horsemen forced Balaji to flee for his life. He fled first to Sasvad, where the Sachiv's agent in Purandhar did not think it prudent to protect him. His pursuers were in sight but the commander of the fort would not allow him to enter. With a few followers, among whom were his sons Bajirav and Chimnaji, Balaji Vishvanath attempted to cross to Pandugad fort in the opposite valley, but the Jadhav's horsemen were on his track and searching for him in every quarter. Balaji managed to hide himself for a few days. Then two Marathas, Pilaji Jadhav and Dhumal, two of his self-horsed troopers, undertook to carry him to a place of safety. They gathered a small troop of horse, and, though they were attacked on the way and a man on each side of him had to hold on Balaji who could not ride, they carried him and his sons out of danger. After this Chandrasen, Balaji's rival, left the Marathas and took service with the Nizam, and, with the Nizam's help, drove back Shahu's forces from the Godavari to the Bhima. To support his local troops Shahu sent Balaji whom he dignified with the title of *sena kurt* or army agent. Balaji joined Haibatrav Nimbalkar, and they together fell back on Purandhar. A battle was fought which the Marathas claim as a victory, but which seems to have been a defeat as they afterwards retreated to the Salpa pass. Poona was overrun by a detachment of Marathas in the Nizam's service under Rambhaji Nimbalkar. An agreement was made, and, as was their custom, the Moghal troops retired for the rains to Aurangabad. As soon as they were gone, under different leaders, the Marathas spread plundering over the country. All the leading Hindu *deshmukhs* and *deshpandias* in the Moghal parts of the Maratha country fortified their villages on

pretence of defending them, but often joined and helped their countrymen. As Nizam-ul-Mulk favoured the Kolhapur party, Shahu's influence continued to decline. In the prevailing anarchy Damaji Thorat, who was attached to the cause of Kolhapur, strengthened a mud fort in the village of Hingni or Hingangaon, near Patas, about forty miles east of Poona and levied contributions about thirty miles round. Balaji Vishvanath, who set out to reduce Damaji, was seduced to a conference, treacherously seized, and thrown into confinement, together with his friend Abaji Purandhare, Balaji's two sons Bajirav and Chimnaji, and several of their immediate retainers. Thorat threatened them with torture and death if they did not pay a large ransom. The ransom was paid, and the Sachiv was sent against Damaji. But he was defeated and himself and his chief agent made prisoners.

[Balaji Vishvanath, First Peshwa, 1714-1720.](#)

About the same time Bahiro pant, Shahu's minister or *peshwa*, undertook an expedition into the Konkan to repel the pirate chief Angria of Kolaba. Bahiro pant was defeated and made prisoner. Angria advanced and took the forts of Rajmachi and Lohogad in west Poona. Angria intended to march on Satara, but he was met and defeated by Balaji. After the defeat, Balaji, by the grant of ten forts and sixteen fortified places in the Konkan, persuaded Angria to forsake the cause of Kolhapur and become tributary to Shahu. [The ten forts were Khanderi, Kolaba, Suvarndurg, Vijayadurg, Jaygad, Devdurg, Kanikdurg, Fategad, Auchitgad, and Yasvantgad; the sixteen fortified place were Bahirugad, Kotla, Venkatgad, Manikgad, Mirgad, Sagargad, Rasalgad, Palgad, Kharepatan, Ramdurg, Rajapur, Ambar, Satavli, Kamte Shrivardhan, and Manranjan.] In consequence of this valuable service, in 1714, Balaji Vishvanath was appointed Peshwa in place of Bahiro pant Pingle who was removed. Balaji's friend Abaji Purandhare was confirmed as his deputy or *mutalik* and Ramajipant Bhanu the ancestor of the celebrated Nana Fadnavis as his secretary or *fadnavis*. After Ghandrasen Jadhav deserted to the Moghals in 1710, Manaji More had been appointed Shahu's commander-in-chief or *senapati*. Since then he had performed no service of distinction. Balaji Peshwa now arranged that Manaji, the commander-in-chief with Haibatrav Nimbalkar should reduce Damaji Thorat. Before hostilities began Balaji succeeded in procuring the release of Damaji's prisoner the Pant Sachiv, and, in gratitude for this service, the Pant Sachiv's mother presented Balaji with all the Paul, Sachiv's rights in Purandhar and gave him the fort as a place of safety for his family whose headquarters had hitherto been at Sasvad. This transfer was confirmed by Shahu. The force assembled in the Poona district under Manaji was too

powerful for Thorat. He was driven back, Hingangam his fort was stormed and destroyed, and himself made prisoner. In 1715 Balaji Peshwa induced the Moghal agent for the Poona district, a Maratha named Baji Kadam, to make over the superior authority to him on the promise that Rambhaji Nimbalkar's estates should be respected. As soon as he acquired this authority Balaji turned his attention to putting down the free-booters with whom the country swarmed, he stopped revenue-farming, and encouraged tillage by granting leases at low rates. Negotiations between Shahu and the court of Delhi were set on foot, in consequence of which in 1718 Balaji, in command of a large contingent, was sent to Delhi to assist the Sayads.

MARATHAS

MARATHAS (1720-1817).

This was the beginning of Maratha influence at Delhi with which till 1803 they were so closely connected. The battle of Shahapur destroyed the power of the Sayads, and established Muhammadshahi upon the throne of the decaying empire. Balaji succeeded in obtaining from the imperial court three grants one for the *chauth* or one-fourth of the whole revenue of the six *subhas* of the Deccan, including the Haidarabad and Bijapur territories, the Karnatak, and the tributary states of Tanjor, Trichinopoli, and Maisur, and a second for the *sardeshmukhi* or additional one-tenth of the Deccan revenue. The third grant was for the *svaraj* or home-rule by the Marathas of sixteen districts, which they stated Shivaji held at the time of his death. [The *svaraj* or home-rule districts were Poona, Supa including Baramati, Indapur, Vai, the Mavals, Satara, Karhad, Khatav, Man, Phaltan, Malkapur, Tarla, Panhala, Ajra, Junnar, and Kolhapur; the *parganas* of Kopal, Gadag, Halyal, and all the forts which were captured by Shivaji to the north of the Tungbhadra, and Ramnagar in the Konkan including Gandevis, Jawhar, Cheul, Bhimgad, Bhiwandi, Kalyan, Rajpuri, Dabhol, Javli, Rajapur, Phonda, Akola, and Kudal. The six *subhas* of the Deccan were Aurangabad, Bedar, Berar, Bijapur, Haidarabad, and Khandesh, yielding an estimated revenue of Rs. 18,05,17,300, the *sardeshmukhi* on which was Rs. 1,80,51,730, and the *chauth* and other rights Rs. 11,75,16,762. Grant Duff's Marathas, 200.] Under this arrangement almost the whole of Poona, Supa, Baramati, Indapur, and Junnar became part of the Maratha home rule, In reward for his services on the occasion Balaji Vishvanath received several districts near Poona in personal grant or *jagir* including the fort of Lohogad.

Bajirav Ballal, Second Peshwa, 1720-1740.

Not long after (1720) Chinkalich Khan, better known as the Nizam-ul-Mulk, who, after the murder of the emperor Ferokshir, had been appointed governor of Malva, revolted, and crossing the Narbada and defeating the imperial forces at Burhanpur and Balapur, made himself independent in the Deccan. Balaji's health had suffered considerably from the fatigue of the journey to and from Delhi and the labour he bestowed on the management of affairs after his return. He was allowed to retire for rest to his family seat at Sasvad, where he died in a few days in April 1721. He left two sons, Bajirav and Chimnaji, and two daughters Bhiubai married to Abaji Naik the brother of Bapuji Naik, a rich banker of Baramati, and Annubai, the wife of Narayanrav Ghorpade of Ichalkaranji in the Bombay Karnatak. For nearly seven months after his father's death Balaji's eldest son Bajirav was not formally invested with the dignity of Peshwa. At last Bajirav received his robes, his brother Chimnaji received the command of an army under the Peshwa and the district of Supa in grant or *jagir*, and Abajipant Purandhare, their father's head agent, was reinvested by Shahu [Grant Duff's Marathas, 209.] Soon after his appointment Bajirav Peshwa set out with an army for Khandesh, but, till 1724, he was forced every year to return to Satara. Bajirav's great design was to extend Maratha power in North India. [Grant Duff's Marathas, 212.] In a debate before Shahu he said, Now is our time to drive strangers from the land of the Hindus and to gain undying renown. By turning our efforts to Hindustan the Maratha flag shall fly from the Krishna to the Attok. Let us strike at the trunk of the withering tree and the branches must fall of themselves. Shahu for the moment roused to something of his grandfather's spirit replied, You shall plant my flag on the Himalayas. You are a noble son of a worthy father. At this time several Maratha officers, who afterwards became independent leaders or founders of states, rose to distinction. The chief of these were Malharji Holkar, the ancestor of the Holkars of Indur then *chaugula* or assistant headman of the village of Hoi on the Nira, Ranoji Sindia the ancestor of the Sindias of Gwalior, the Peshwa's slipper-bearer, Udaji Povar the ancestor of the Povars of Dhar an enterprising warrior of Malwa, and Pilaji Gaikwar the son of Damaji Gaikwar the ancestor of the Baroda Gaikwars. [Grant Duff's Marathas, 212.] In 1731 Bajirav remained at Poona and employed himself in the internal management of Maratha affairs. His victory over his rival Trimbakrav Dabhade the Maratha commander-in-chief or Senapati like the issue of every civil war left unfriendly feelings in many minds. Bajirav took every means to regain goodwill, among others continuing Dabhade's practice of feeding some thousand Brahmans for several days. This charitable practice Bajirav continued at Poona and gave sums of money at the same time to the assembled Shastris and Vaidiks. This festival was

continued by his successors and was known by the name of *Dakshina* or money gifts. [Grant Duff's Marathas, 205. This dakshina fund is now used for promoting vernacular literature and providing fellowships in the two arts colleges in Poona and Bombay.] In 1734 Balaji was most successful in the north gaining Malwa and the territory between the Chambal and the Narbada, and, in 1739, his brother Chimnaji drove the Portuguese from almost all their leading possessions in the North Konkan. Bajirav died in 1740. He left three sons, Balaji the eldest who succeeded him as Peshwa, Raghunathrav the second afterwards so well known to the English, and Janardan Bava who died in early youth. He left one illegitimate son by a Muhammadan mother whom he bred as a Musalman and named Samsher-Bahadur. Bajirav was ambitious, a thorough soldier, hardy, self-denying, persevering, and patriotic. Maratha pictures represent him eating fried *jvari* ears or *hurda* as he rides at the head of a troop of Maratha soldiers. He was no unworthy rival of Nizam-ul-Mulk, and wielded the mighty arm of Maratha power with incomparable energy. While the main body of his army remained encamped on the Shivganga, Raghuji Bhonsla the *Sena Saheb Subha* or commander-in-chief returned to Satara, and endeavoured to prevent Balaji Bajirav's succession as Peshwa by proposing for the vacant office Bapuji Naik, a Brahman banker of Baramati, a connection but an enemy of the late Peshwa who was Bapuji's debtor for a large sum.

Balaji Bajirav, alias Nanasaheb, Third Peshwa, 1740-1761.

Chiefly by the help of his uncle Chimnaji, Balaji's claims prevailed, and he was invested in August 1740. The disappointed Bapuji Naik at first pressed Balaji hard to pay his father's debts. Balaji, was relieved from this annoyance by the influence and credit of his agent or *divan*, Mahadajipant Purandhare. In 1741, on the death of his uncle Chimnaji, Balaji Peshwa returned from the northern districts and spent nearly a year in improving the civil administration of Poona and Satara. From this till 1745, a time of comparative quiet in the Deccan, Balaji encouraged agriculture, protected the villagers and grain merchants, and caused a marked improvement in the state of the country.

Shahu's Death, 1749.

Shahu died in 1749 and was succeeded by Ram Raja, the posthumous son of the second Shivaji whose birth in 1712 was kept a secret. Before his death Balaji obtained a deed from Shahu Raja empowering him to manage the Maratha empire, on condition of perpetuating the Raja's name and keeping up the dignity of the house of Shivaji

through the grandson of Tarabai and his descendants. Balaji left the Raja in Raghuji's charge and went to Poona, and from this time Poona became the capital of the Maratha empire. Tarabai, whom Balaji had almost overlooked, although seventy years of age, showed him how dangerous it was to slight a woman of her spirit. On pretence of paying her devotions at her husband Rajaram's tomb in the fort of Sinhgad, she endeavoured to persuade the Pant Sachiv to declare for her as the head of the Maratha empire. After much persuasion Balaji induced Tarabai to come to Poona, and, flattering her ambition with the hope of a large share in the administration, persuaded her to use her influence with Ram Raja to confirm his schemes. The Maratha chiefs were subservient to the Peshwa's views and were not likely to cause opposition. Balaji owed much of his success to his minister or *divan*, Mahadajipant, who, except Sadashivrav his cousin had more influence than any one over Balaji. Through Sadashivrav's influence, Ram Raja the new Satara chief agreed to renounce the entire power, and to lend his sanction to whatever measures the Peshwa might pursue. After Balaji's scheme had so far prospered, it was nearly ruined by a quarrel between him and his cousin Sadashivrav. Sadashivrav applied to Balaji for the same share of authority as had been enjoyed by Sadashivrav's father Chimnaji Appa. To this Balaji would not agree as he was anxious that the second place should be held not by Sadashivrav but by Mahadajipant Purandhare to whom Balaji was under deep obligations. Sadashivrav in anger accepted the position of Peshwa to the chief of Kolhapur. As this quarrel was likely seriously to weaken the power of the Peshwa, Mahadajipant gave up his post and Sadashivrav came to Poona as the Peshwa's minister or *divan*. [Grant Duff's Marathas, 271 - 272.]

In 1750 Balaji Peshwa arranged that the Pant Sachiv should give him Sinhgad in exchange for Tung and Tikona in Western Poona. [Grant Duff's Marathas, 271-272.] He then marched with an army towards Aurangabad. In 1751 as Damaji Gaikwar did not comply with Balaji's commands, the Peshwa sent private orders to seize some of the Gaikwar and Dabhade families, who were living at Talegaon, and imprison them in the hill-fort of Lohogad. He also treacherously surrounded, attacked, and plundered Damaji's camp which was near him at Satara, and kept him in confinement in the city of Poona. [In consequence of this treachery Damaji is said ever after to have refused to salute the Peshwa except with his left hand. Grant Duff's Marathas, 274.] During the same year (1751) the Moghals, supported by the French, advanced towards Poona, totally destroying every village in their route, Balaji, alarmed at their progress, endeavoured to negotiate, and at the same time to arouse suspicion and jealousy of

the French among Salabat Jang's officers. Monsieur Bussy, the French general, as the best means of counteracting such schemes and securing influence with the Nizam, exerted himself with judgment and energy, he planned an attack on the Maratha camp at Rajapur on the Ghod river on the night of the 22nd of November, at the moment of an eclipse of the moon when the Hindus were at prayer. The Maratha army fled before him, and though only one man of consequence was wounded, some valuable booty was taken particularly some gold vessels; belonging to the Peshwa. This success added greatly to Bussy's reputation. In spite of the surprise, next day the Marathas were as active as ever, Still the Moghals pressed on, plundered Ranjangaon, and totally destroyed Talegaon Dabhade. At last on the 27th of November they were attacked by the Marathas with the greatest determination, and nothing but the French artillery saved them from total defeat. The Marathas were led by Mahadajipant Purandhare, the late *divan*, supported by the two sons of Ranoji Sindia, Datteji, and Mahadji, and by Konher Trimbak Ekbote whose feats of valour gained him the title of *Phakde* the hero. Still the Moghals pressed on to Koregaon on the Bhima. Negotiations were opened but were stopped by the news that the Marathas had taken the Moghal fort of Trimbak in Nasik. Salabat Jung demanded that the restoration of Trimbak should form part of any settlement. This Balaji refused and the Moghals moved towards Junnar continually harassed by the Marathas. At last, an armistice was concluded and the Moghals returned to Haidarabad (1752). During the next year the armistice was turned into a peace. Balaji returned to Poona and soon after prepared a large force for an expedition into the Karnatak which turned out to be the most profitable in which he was ever engaged. [Grant Duff's *Marathas*, 280,] Before he left for the Karnatak Balaji endeavoured to arrange a compromise with Tarabai against whom a force had been sent in the previous year. In June 1751 Balaji returned to Poona from the Karnatak. Damaji Gaikwar, who had been imprisoned at Poona since 1751, was anxious to procure his release and Balaji entered into terms, when, among other points it was arranged that Damaji should pay a sum of £150,000 (Rs. 15,00,000), should set apart for the Peshwa half of the territory conquered by him in Gujarat, and should pay a large sum as deputy commander-in-chief.

In 1751, with the object of gaining possession of Surat then the chief centre of trade in Western India, Raghunathrav, Balaji's brother, had been sent to Gujarat, but was recalled without effecting his object. Nothing more was done till at the close of the rains of 1754, to spread Maratha power in Gujarat and to carry out the settlement made with Damaji, Raghunathrav started on a second expedition to Gujarat.

Shortly after a second expedition which Balaji accompanied for some distance in person proceeded to the Karnatak. Balaji, who was naturally indolent, left the burden of military affairs to his brother Raghunathrav and the civil administration to his cousin Sadashivrav. For more than the life of a man plunder and violence had been general. An improvement was begun at this time by Ramchandra Baba Shenvi the friend and adviser of Sadashiv and after his death was carried on by Sadashiv Chimnaji.

In March 1753, Raghuji Bhonsla the *Sena Saheb Subha* died. Before his death he counselled his son to preserve union in the Maratha empire. Soon after, with the object of being confirmed in his father's office, Raghuji's son Janoji came to Poona. Encouraged by Janoji's approach, and, on the Peshwa's assurance of safety, Tarabai, the aged head of the Satara state, came to Poona. She was received with great attention and agreed to the Peshwa's former proposals. Balaji professed much anxiety for the release of Ram Raja, the Satara chief, who was then in confinement in Satara fort. He pressed the point, being anxious that Ram Raja should be kept in confinement and judging that to profess the opposite view was the likeliest means to bring Tarabai to take the course he wished. This calculation was correct and the chief remained a prisoner. Janoji Bhonsla agreed to the terms subscribed by his father. He undertook to furnish 10,000 horse for the service of the state and to pay £90,000 (Rs. 9 *lakhs*) a year to meet the cost of the establishment of the Satara chief. Janoji was formally invested as *Sena Saheb Subha*, and Balaji approved of the treaty Janoji had made in 1751 with Alivardi Khan of Haidarabad, under which the Marathas were to receive a share of the revenues of Orissa. Janoji then left for Berar.

In July 1755 Balaji Peshwa returned from an expedition into the Karnatak. Shortly after Balaji's return Muzaffar Khan, who had been dismissed from the Nizam's service appeared at Poona, made humble apologies to the Peshwa and promises of good conduct, and was again entertained contrary to Sadashivrav's advice. In April 1756 the capture of Angria's stronghold of Gheria or Vijaydurg in Ratnagiri and the destruction of Angria's power at sea was the first achievement which raised the English to importance as a political power in Western India. A land force of the Peshwa's had acted with the English fleet. They had given little aid and by intrigues with Angria had tried to secure Gheria for themselves. This attempt was discovered and prevented by the English, and the English were in the strong position of holding Gheria of which Balaji was most anxious to gain possession. In October 1756, Mr. John Spencer and Mr. Thomas Byfield, members of the

Bombay Council, came to Poona and had a long interview with Balaji Peshwa at which Raghunathrav the Peshwa brother and Sadashivrav the Peshwa's cousin were present. As news had reached him that M. Bussy had been restored to power at Haidarabad Balaji was anxious to obtain the services of a body of English troops. To this Mr. Spencer was instructed not to agree, though, at the same time, he was to let the Peshwa know that Salabat Khan had been asking the Madras Government to supply him with English troops to aid him in driving out the French. Balaji expressed strong disapproval of any alliance between the English and the Nizam. Under a treaty concluded on the 12th of October 1756 Balaji agreed to allow the Dutch no share in the trade of the Maratha dominions, and the English agreed to cede Gheria to Balaji receiving in exchange ten villages including Bankot in the Central Konkan and the sovereignty of the Bankot river. Balaji engaged to give no territory to Angria and to settle with the Sidi of Janjira regarding his customs dues in the Bankot river. He also agreed to waive all claims on the English company and to levy on English merchandise no additional inland duties. [Grant Duffs Marathas, 298.] Shortly after (1756) Raghunathrav, with Sakharam Bapu as his agent or *divan* started for Hindustan. They were joined by Malharav Holkar, and together advanced to Delhi and broke the power of Ahmad Abdalli who was forced to retire to Afghanistan. This, though one of the most successful of Maratha campaigns, was costly, and was not rewarded with any large share of booty. At the close of 1756 Balaji led an army south to the Karnatak, and crossed the Krishna in February 1757. Meanwhile news had come that the English were in trouble in Calcutta, and that war had broken out in Europe between England and France. This caused a change in Balaji's attitude to the English. He wrote to the Madras Government, forwarding a letter to the king of England, written with much less friendliness than he had shown in the negotiations with Mr. Spencer, and, in spite of the provision in the 1756 treaty agreeing to waive all claims on the English Company, asking for the treasure and stores which the English had carried off from Gheria. This request was probably made not in the hope of getting the Gheria spoils, but preparatory to demands for a share in the revenues of the Moghal provinces of the eastern or Payin Ghat that is lowland Karnatak in which the English had now a direct interest. About May 1757 Balaji returned from the Karnatak with the greater part of his army successful to Poona.

During the next two years Balaji took a considerable part in Haidarabad affairs where a plot was on foot to cause a revolution and drive out the French. In March 1759 Balaji succeeded for a time in keeping the English from taking Surat castle, but through the ability of

Mr. Spencer and the military talents of Admiral Watson the castle and with it the post of Moghal admiral passed to the English in the same year. At Poona the civil administration continued under the management of Sadashivrav, Balaji's cousin. Sadashivrav was violent and grasping but active and vigorous, and though proud and unbending, had a large share of good nature and good sense. He was open to bribes but not under circumstances to which Maratha ideas attached shame. Sadashivrav had a bitter enemy in Balaji's wife Gopikabai, who feared that Sadashivrav would prevent her sons from gaining their proper position and power in the state. To remove her fears Sadashivrav was urgent in recommending to Balaji the early employment of his eldest son Vishvasrav in war and in civil affairs. In spite of Sadashivrav's goodwill in this matter, Gopikabai nursed a bitter dislike of Sadashivrav and did what she could to arouse unfriendly feelings between him and her husband Balaji. This ill feeling did not turn to open discourtesy till the return of Ragunathrav from North India in 1759. Sadashivrav blamed an arrangement of Ragunathrav's which had caused a loss to the state, and Ragunathrav left him in anger telling him he had better take command of the next expedition. The quarrel between Ragunathrav and Sadashivrav spread to other members of the family, and the ill feeling became still stronger after an attempt on Sadashivrav's life by Muzaffar Khan whom, contrary to Sadashivrav's advice, Balaji had received back to favour. There was no proof that either Balaji or Ragunathrav was a party to the plot. In 1760 the arrangement which had been suggested by Ragunathrav in anger, that Raghunathrav should take Sadashivrav's place at the head of civil affairs in the Deccan and that Sadashivrav should take Ragunathrav's place at the head of the Maratha army in North India was carried out. Before Sadashivrav left with his army for North India, news came of the success of an intrigue for the surrender of the strong fort of Ahmadnagar, which for a sum of money was betrayed into the hands of a Brahman agent of Sadashivrav's by Kavi Jang the Moghal commandant, his act of treachery brought on a war with the Nizam. Balaji marched with a large army to Ahmadnagar, and Sadashivrav moved eastwards.

Udgir, 1760

The Moghal army under Salabat Jang and Nizam Alimet Balaji's army at Udgir on the banks of the Manjra about one hundred miles east of Ahmadnagar, and chiefly by the brilliant courage of Sadashivrav ended in a severe defeat to the Nizam. Under the terms of a treaty concluded after this important victory, Shivner in Poona, Daulatabad, Asirgad, Bijapur, and the province of Aurangabad were made over to the

Marathas. These territories yielded an estimated yearly revenue of over £620,000 (Rs. 62 *lakhs*). Of the whole territory portions yielding an estimated yearly revenue of £410,000 (Rs. 41 *lakhs*) were according to the Peshwa's practice granted as military estates or *jagirs*. Towards the close of 1760 Sadashivrav marched to North India in command of the richest army which the Marathas ever assembled.

Panipat, 1761.

In the middle of January 1761 news of the ruin of the Marathas at Panipat reached Peshwa Balajirav in the Godavari valley. The message ran: Two pearls have been dissolved, twenty-seven gold *mohars* have been lost, of the silver and copper the total cannot be cast up. Balaji understood that the two leaders his cousin Sadashivrav and his eldest son Vishvasrav were slain, numbers of his nobles lost, and the mass of the proudest army the Marathas ever put in the field destroyed. Balaji retired slowly to Poona. The blow crushed him, his mind gave way, and he died in the end of June in the temple he had built on Parvati hill close to the south of Poona.

Though under Balaji the Maratha power was at its highest, and though the Marathas praise the time of his rule, Balaji owed more to his father and grandfather and to his brother Raghunathrav and his cousin Sadashivrav than he owed to himself. He was lazy sensual and dissipated, but kind generous and charitable. He loved intrigue and hated violence. He had great address, polished manners, and considerable political sagacity, tempered by a cunning which passed for wisdom. Though perhaps less well-ordered than it became about thirty years later under Nana Fadnavis, under Balaji Bajirav the administration of the country round Poona was greatly improved.

Condition, 1714-1760

Balaji Vishvanath the first Peshwa (1714-1720) had done good by stopping revenue-farming, by granting land on cheap leases, and by encouraging villagers to protect themselves from the exactions of petty chiefs. Still, till about 1750, the country round Poona was full of turbulence and disorder. Balaji Bajirav appointed *mamlatadars* and *subhedars* to the different districts and over them in the more distant parts placed a *sarsubhedar* or provincial governor. Poona and the other lands between the Godavari and the Krishna, though the best protected territories under Maratha rule, had no governor. Instead of being under a governor they were under the Peshwa's favourites and courtiers, who had absolute police, revenue, and judicial power. They

stayed at court, governed by deputy, allowed their districts to fall into disorder, paid to the state but a small share of their revenues, and furnished no accounts. Balaji Bajirav was too indolent to reform these abuses. But Sadashivrav, acting on a policy which was started by Ramchandra Baba Shenvi, appointed a governor or *sarsubhedar*, and, in spite of opposition which in one case had to be met by force, compelled the managers of the districts to produce their accounts and to pay the state its share of the revenue. A respectable Shastri was placed at the head of justice and the police was greatly improved. These reforms and the Peshwa's success in war, which enriched the Deccan with the spoils of great part of India, improved the state of the people. The Maratha peasantry have ever since blessed the days of Balaji Bajirav, or as he was commonly called Nana Saheb Peshwa. [Grant Duff's Marathas, 320-322.]

[Madhavrav Ballal, Fourth Peshwa, 1761-1772.](#)

Though power had so entirely passed from the Satara chief that had to get leave from the Peshwa to appoint an agent to collect his dues as hereditary *deshmukh* of Indapur, Balaji's second son Madhavrav, then in his seventeenth year, in September 1701 went to Satara to receive investiture. The young Madhavrav and his uncle Raghunathrav who was appointed regent had to face the difficulties which the ruin of Panipat had brought upon the heads of the Maratha empire. The first difficulty was in the Konkan where the English sided with the Sidi of Janjira, saved his state from destruction by the Marathas, and forced the Marathas to restore part of the Sidi's lands which they had taken. [Grant Duff's Marathas, 324.] Raghunathrav agreed to these terms because he knew that Nizam Ali was collecting a large force in the hope of winning back the territories which had been lost to Haidarabad by the defeat of Udgir in 1760. The Peshwa's finances were low and the Maratha nobles held back from coming to the Peshwa's help. Raghunathrav, in the hope of securing the services of English troops, offered the Bombay Government large cessions of territory, near Jambusar in Gujarat. What the Bombay Government wanted was the island of Salsette but this Raghunathrav was most unwilling to give. While negotiations went on, the Moghal army had advanced close to Ahmadnagar. At Toka about forty-five miles east of Ahmadnagar the Muslims destroyed some Hindu temples, and most of the Marathas in their army deserted to the Peshwa carrying with them Mir Moghal Nizam-ul-Mulk's youngest son. The Moghals, though opposed with spirit, continued to advance. At last in 1762, within fourteen miles of Poona, negotiations were opened and on the cession of land in Aurangabad and Bedar yielding £270,000 (Rs. 27 lakhs) a year the

Moghal army retired. When the danger from the Moghals was at an end Raghunathrav's anxiety for English soldiers ceased, and the negotiations about ceding Salsette to the English were rudely broken off. [Grant Doffs Marathas, 325.]

When the treaty with the Nizam was concluded, Madhavrav the young Peshwa, attended by Trimbakrav Mama the maternal uncle of the late Sadashivrav, was sent south to collect the revenue, and Nizam Ali returned towards Bedar, [Colonel Wilks does not mention this expedition into the Karnatak.] Shortly after Madhavrav returned to Poona, his anxiety to share in the administration brought on disputes between him and his uncle Raghunathrav. Raghunathrav, Sakharam Bhagavant Bokil better known as Sakharam Bapu, and several other ministers resigned. Madhavrav promptly asked Trimbakrav Mama to act as minister or *divan*, and next under Trimbakrav appointed Gopalrav Govind Patvardhan, Jagirdar of Miraj. At the same time Madhavrav chose as his personal agents, or *karkuns*, Haripant Phadke and Balaji Janardan Bhanu, afterwards the famous Nana Fadnavis. The failure of his plan to force Madhavrav to keep him in power and the mutual hatred of Anandibai Raghunathrav's wife and Gopikabai Madhavrav's mother so enraged Raghunathrav that he retired from Nasik to Aurangabad, and on promise of ceding Daulatabad, Asirgad, Ahmadnagar, Shivner, and territory yielding £510,000 (Rs. 51 lakhs), he was assisted by a Moghal army, with which half-way between Poona and Ahmadnagar he met and defeated Madhavrav. Madhavrav saw that a war between him and his uncle must cause a complete split in the Maratha state. He accordingly threw himself into Raghunathrav's power, who placed him in confinement but treated him with respect. Raghunathrav, being now in uncontrolled power, appointed Sakharam Bapu and Nilkanthrav Purandhare his principal ministers, bestowing on Sakharam an estate worth £90,000 (Rs. 9 lakhs) and giving Nilkanthrav the command of Purandhar fort. He raised his own infant son Bhaskarrav to the office of Pratinidhi or deputy, and made Naro Shankar his deputy. These and other changes gave much offence, and, when, to gratify personal hatred, Raghunathrav took the fort of Miraj from Gopalrav Patvardhan, Gopalrav and many Maratha nobles went over to the Nizam.

In the war which followed the Maratha troops ravaged the Nizam's country, and Nizam Ali advanced and plundered Poona, taking much property and destroying and burning all houses which were not ransomed. Shortly after, in 1763, the violence of the rains forced the Moghals to withdraw to Aurangabad. In the same year Janoji Bhonsla, who had been won to the Nizam's side by the promise of the Satara

regency, found the Nizam's promises deceptive and returned to the Peshwa. In the battle which followed at Rakisbon or Tandulja, in great measure owing to the courage and military talent of Madhavrav, the Marathas gained a complete victory. After peace was concluded with the Nizam, on the death of Raghunathrav's son Bhaskarrav, Bhavanrav was restored to his rank of Pratinidhi, Miraj was given back to Gopalrav Patvardhan, and on Balaji Janardan Bhanu afterwards known as Nana Fadnavis was bestowed the office of Fadnavis. In 1764 a large army was assembling at Poona to act against Haidar Ali who had risen to power on the ruins of the Hindu state of Maisur. Madhavrav insisted on his right to command this army while his uncle remained at Poona to conduct the government. Sakhararn Bapu joined in supporting Madhavrav. Raghunathrav yielded but retired in anger to Anandveli near Nasik. These discussions delayed the Peshwa's advance, and, before he could reach the Karnatak, Gopalrav Patvardhan was defeated by Haidar's general Fazal ulla Khan with great loss. Madhavrav was more successful. In the month of May he entered the Karnatak with an army of 30,000 horse and about the same number of infantry and near Amravati inflicted a severe defeat on Haidar Ali. This led to a treaty under which Haidar engaged to restore all places wrested from Murarrav Ghorpade, to relinquish all claims on the Nawab of Savanur, and to pay £320,000 (Rs. 32 *lakhs*) to the Peshwa. After this treaty was concluded Madhavrav left the Karnatak and re-crossed the Krishna by the end of February 1765. The ill feeling between Madhavrav and Raghunathrav continued to be fostered by the hatred of Gopikabai, and Anandibdi. As Madhavrav knew that Raghunathrav could at this time gain the aid either of Nizam Ali or of Janoji Bhonsla, he, in 1766, concluded a secret alliance with Nizam Ali who hoped to persuade Madhavrav to join him in attacking Haidar Ali. During the same year Nizam Ali entered into an alliance with the English with the object of overthrowing Haidar and restraining the spread of the Marathas. In 1767 Madhavrav, who probably felt that the combination of the English and Nizam must be partly directed against him, advanced by himself into the Karnatak, levied £300,000 (Rs. 30 *lakhs*) from Haidar and £170,000 (Rs. 17 *lakhs*) from other powers in the Karnatak, and returned to the Deccan before the Nizam had taken the field. The English and the Nizam sent envoys to claim part of the Maratha plunder, but they were treated with broad and undisguised ridicule. [Grant Duffs Marathas, 337.]

In 1768 Mr. Mostyn came to Poona as envoy from the Bombay Government to try and secure an assurance that the Peshwa would not join in alliance with Haidar and the Nizam. Madhavrav refused to give any promise and told the envoy that he would be guided by

circumstances. In April of the same-year, with the help of Damaji Gaikwar and Gangadhar Yashvant the *divan* of Holkar, Raghunathrav collected a large army at Nasik and marched about fifty-five miles north to the neighbourhood of the hill fort of Dhodap. As he was waiting at Dhodap in the hope of being joined by Janoji Bhonsla of Berar, Madhavrav surprised Raghunathrav's army, took him prisoner, and carried him to Poona where he confined him in the Peshwa's palace. In 1769 to punish Janoji for the support he had given to Raghunathrav, the Peshwa advanced towards Berar, and Janoji wheeled to the west and began to plunder the country on the way to Poona. After Poona was destroyed by Nizam Ali in 1763, Madhavrav had proposed to surround it with a wall. This design was afterwards abandoned on the ground that no fortified plain city could be as safe as Sinhgad and Purandhar. On Janoji's approach the people of Poona sent off their property. Madhavrav ordered Gopalrav Patvardhan and Ramchandra Ganesh to move against Janoji with 30,000 horse, but Gopalrav was in league with Janoji and took no steps to stop his plundering. Madhavrav shortly after was forced to make a treaty with Janoji. He next ordered Visaji Krishna Binivale, accompanied by Ramchandra Ganesh, Tukoji Holkar, and Mahadji Sindia the illegitimate son of Ranoji Sindia and the successor in the family estates of his nephew Jankoji, to start at once with an army to Malwa. In spite of these urgent orders Madhavrav, two or three days after, when riding to his favourite village of Theur thirteen miles east of Poona, found Mahadji's camp without a sign of moving. He instantly sent word to Mahadji, that if on his return from Theur he found a tent standing or his troops in sight he would plunder the camp and take his estates. This expedition to Northern India was extremely successful, and a heavy tribute was imposed on the Jats. Though so constantly pressed by wars and rebellions, Madhavrav did much to improve the civil government of his country. His efforts were greatly aided by the celebrated Ram Shastri, an upright and pure judge in almost universal corruption. One of Madhavrav's first acts was to stop the practice of forcing villagers to carry baggage without pay. The practice was so common, that the order putting a stop to it occasioned much discontent and many of the leading men disregarded the order. Madhavrav, who had an excellent system of spies, learned that some valuable articles belonging to the *subhedar* of Bassoin were being carried by forced labour. He seized and confiscated the property, and levied a heavy fine to repay the people for being taken from their fields. He issued fresh orders, which none who knew his system of spies dared to disobey. In the fair season of 1770, Madhavrav had leisure to turn his attention to the Karnatak, where Haidar Ali, having made peace with the English, not only evaded the Maratha demands

but levied contributions on the Peshwa's vassals. To punish this insult, in November, Madhavrav sent forward a large body of horse under Gopalrav Patvardhan and Malharav Rastia, himself following at the head of 20,000 horse and 15,00 foot. His progress was successful and he reduced several places of strength. In June an attack of the disease which was wasting him, a consumption which he believed was brought on by the curse of the mother of the Kolhapur chief, forced Madhavrav to return to Poona, leaving Trimbakrav Mama to carry on the war. In 1771, as soon as the season allowed, Madhavrav marched from Poona intending to join Trimbakrav Mama. he was again taken ill, and made over the command to Apa Balvant who defrated Haidar and forced him to come to terms. During the rainy season Madhavrav's health so greatly improved that he seemed to have shaken off his disease. But in March 1772 his sickness returned. This attack was pronounced incurable, and on the morning of the 18th of November he died at Theur in the 28th year of his age. He left: no children, and his widow Rambai, who had a go at love for him, burnt herself with his body. The death of Madhavrav, says Grant Duff, occasioned no immediate commotion. Like his own disease it was at first scarcely perceptible, but the root which nourished the far-spreading tree was cut from the stem. The plains of Panipat were not more fatal to the Maratha empire than the early end of this excellent prince, brave, prudent, fond of his people, firm, and successful. Madhavrav, who is known as Thorale or Great Madhavrav, is entitled to special praise for his support of the weak against the oppressive, of the poor against the rich, and, so far as the constitution of society admitted, for his justness. Madhavrav started nothing new. He improved the existing system, tried to cure defects without changing forms, and restrained a corruption which he could not remove. The efficiency of his early government was clogged rather than aided by the abilities of Sakharam Bapu. The old minister's influence was too great for his young master's talents. All useful acts were set down to Sakharam Bapu and all that was unpleasant to Madhavrav, an allotment of praise and blame, which Madhavrav's irritable and ungoverned temper seemed to justify. When, shortly after Raghunathrav's confinement (1768), Madhavrav removed Sakharam, he allowed Moroba his successor to do nothing without his orders, and established a system of intelligence which gave him prompt and exact information regarding both domestic and foreign events.

For some time before Madhavrav's death Raghunathrav's confinement had been much relaxed. As his nephew's health declined, Raghunathrav opened intrigues with Haidar Ali and the Nizam to obtain his freedom and secure his succession as Peshwa. During Madhavrav's last illness the ministers intercepted the correspondence. Nineteen

persons were sent to hill forts, and Raghunathrav's confinement would have become stricter than ever, had not Madhavrav, feeling that death was near, interposed, observing that it was natural for his uncle to desire his liberty. His sound discrimination showed him that his brother would fail to conduct the administration if Raghunathrav were neither effectually restrained nor conciliated. Judging conciliation better than restraint, he appointed Raghunathrav's friend Sakharam Bapu minister, and summoned Raghunathrav to Theur and there solemnly placed his younger brother Narayanrav under Raghunathrav's charge. Shortly before Madhavrav's death Mr. Thomas Mostyn, of the Bombay Civil Service, came to live at Poona as an envoy of the British Government. [Grant Duffs Marathas, 371. The appointment of envoy was made under instructions from the Court of Directors. The object of the appointment nominally was to keep the different Presidencies informed of the movements and intentions of the Marathas. The real object of the mission was to obtain the cession of Salsette and the islands of the Bombay harbour.]

Narayanrav Ballal, Fifth Peshwa, 1772-1773.

In December 1772 Narayanrav, the third of Balaji Bajirav's sons, then seventeen years old went to Satara and was invested as Peshwa. Sakharam Bapu received the robes of prime minister under the name of *karbhari*, Bajaba Purandhare was appointed minister or *divan*, and Nana Fadnavis was appointed recorder or *fadnavis* [The first object of the new administration was the reduction of Raygad in Kolaba (1773) which was held by the Moghals. Grant Duff's Marathas, 369.] Narayanrav and Raghunathrav for some time continued in apparent friendship. But the old hatred between Narayanrav's mother Gopikabai and Raghunathrav's wife Anandibai, and the jealousy of the Brahman ministers soon produced discord, and, on the 11th of April 1773, Raghunathrav was confined in a room in the palace in which Narayanrav usually lived when at Poona. Nana Fadnavis stood high in Narayanrav's favour, but Bajaba Purandharo and Haripant Phadke were his chief confidants. The conduct of the leading affairs of state nominally continued with Sakharam Bapu, but the favourites were opposed to his power. Narayanrav, who had a longing for military fame, looked forward with eagerness to the next season's campaign in the Karnatak, Troops were told to be in readiness, and orders were despatched to recall the armies from North India. On the morning of the 30th of August a commotion broke out among the Peshwa's regular infantry in Poona. Towards noon the disturbance so greatly increased that Narayanrav, before going to dine, told Haripant Phadke to restore order. Haripant neglected these instructions and went to

dine with a friend. In the afternoon, Narayanrav, who had retired to rest, was wakened by a tumult in the palace, where a large body of infantry, led by two men named Sumersing and Muhammad Yusuf, were demanding arrears of pay. Kharaksing who commanded the palace guard joined the rioters. Instead of entering the open main gate, they made their way through an unfinished door on the east side, which, together with the wall round the palace, had shortly before been pulled down to make an entrance distinct from the entrance to Raghunathrav's quarter.

Narayanrav Murdered, 30th August 1773.

On starting from sleep Narayanrav, closely pursued by Sumersing, ran to his uncle's room. He threw himself into his uncle's arms, and called on him to save him. Raghunathrav begged Sumersing to spare his life. I have not gone thus far to ensure my own destruction replied Sumersing; let him go, or you shall die with him. Raghunathrav disengaged himself and got out on the terrace. Narayanrav attempted to follow him, but Tralia Povar an armed Maratha servant of Raghunathrav's, seized him by the leg, and pulled him down. As Narayanrav fell, Chapaji Tilekar, one of his own servants, came in, and though unarmed rushed to his master. Narayanrav clasped his arms round Chapaji's neck, and Sumersing and Tralia slew them both with their swords. Meanwhile the conspirators secured the whole of the outer wall of the palace. The tumult passed to the city, armed men thronged the streets, the shops were shut, and the townsmen ran to and fro in consternation. Sakharam Bapu went to the police magistrate's office and there heard that Raghunathrav had sent assurances to the people that all was quiet. Sakharam Bapu directed Haripant Phadke to write a note to Raghunathrav. Raghunathrav answered telling him that some soldiers had murdered his nephew. Haripant declared that Raghunathrav was the murderer and fled to Baramati. Sakharam Bapu told the people to go to their homes and that no one would harm them. On that night Bajaba Purandhare and Maloji Ghorpade had an interview with Raghunathrav, and Trimbakrav Mama bore off Narayanrav's body and burnt it. Visitors were received at the palace. Mr. Mostyn, the English envoy and the different agents paid their respects, but Raghunathrav remained in confinement, detained, as was said, by the conspirators as a security for the payment of their arrears. Raghunathrav was suspected, but there was no proof. He was known to have loved his nephew, and the ministers decided that, until the contrary was proved, Raghunathrav should be held innocent and be accepted as the new Peshwa. Ram Shastri approved of this decision. At the same time he made close inquiries.

After about six weeks he found a paper from Raghunathrav to Sumersing, giving him authority to slay Narayanrav. Ram Shastri showed this paper to Raghunathrav, who admitted that he had given an order, but persisted that his order was to seize Narayanrav, not to slay him. Examination of the paper confirmed Raghunathrav's statement, showing that the word *dharave* seize had been changed to *marave* kill. This change it was generally believed was the work of Anandibai Raghunathrav's wife; it was also believed that it was under her orders that the servant Tralia Povar had taken part in Narayanrav's murder. When Raghunathrav confessed his share in Narayanrav's murder, he asked Ram Shastri what atonement he could make. The sacrifice of your life, replied the Shastri, is the only atonement. The Shastri refused to stay longer in Poona with Raghunathrav at the head of affairs, left the city, and spent the rest of his life in retirement near Vai. Mean while the arrears of pay were discharged, Raghunathrav was released, and his adopted son Amritrav, attended by Bajaba Purandhare, was sent to Satara to bring the robes of office.

[Raghunathrav, Sixth Peshwa, 1773-1774.](#)

Raghunathrav was proclaimed Peshwa. Sakharam Bapu was confirmed as prime minister or *karbhari*; and Chinto Vithal and Sadashiv Ramchandra the son of Ramchandra Baba Shenvi were the most confidential of Raghunathrav's advisers. Narayanrav was murdered in his eighteenth year. His follies, which were the follies of a boy, have been blackened into crimes by the feelings and interests of his rivals. He was affectionate to his relations, kind to his servants, and loved by all but his enemies. By the end of the rainy season (November 1773) the Peshwa's army in North India under Visaji Krishna returned to Poona. They had defeated an attempt of the emperor Shah Alam II. to free himself from Maratha Control, and had greatly strengthened Maratha power at the Delhi court. [Grant Duffs Marathas, 363.] Haidar Ali of Maisur and Nizam Ali of Haidarabad lost little time in taking advantage of the disorders at Poona. Raghunathrav resolved to oppose Nizam Ali and cripple his power. It was when the army had marched and Raghunathrav was leaving Poona, that Ram Shastri produced the proof of Raghunathrav's knowledge of the plot against Narayanrav and stated that so long as Raghunathrav remained at the head of affairs he would never return to Poona. Though the other ministers did not openly withdraw from Raghunathrav's support they soon became estranged from his councils, and Sadashiv Ramchandra, Chinto Vithal, A'baji Mahadev, and Sakharam Hari, the persons of whom he made choice, were ill qualified to supply their place. Sakharam Bapu and Nana Fadnavis on different pretences withdrew from the army and

returned to Poona. They were soon followed by Ganpatrav Rastia, Babaji Naik Baramatkar, [The nephew or grandson of Bapuji Naik Baramatkar, who was married to the aunt of Balaji Bajirav and who endeavoured with the support of Raghuji Bhonsla to purchase the office of Peshwa in 1740.] and several other persons of consequence. Except Bajaba Purandhare, Moroba Fadnavis was the last of Raghunathrav's minister to quit his camp. All but Raghunathrav and his dependents saw there was some scheme on foot. [Grant Duff's Marathas, 365.]

The leading members of the Poona ministry were Sakharam Bapu, Trimbakrav Mama, Nana and Moroba Fadnavis, Bajaba Purandhare, Anandrav Jivaji, and Haripant Phadke. All these men had been raised by the Peshwa's family and had no connection with Shivaji's and Shahu's eight ministers. The leaders of the ministry were Nana Fadnavis and Haripant Phadke. It was found that Gangabai Narayanrav's widow was pregnant, and it was determined that she should be taken for safety to Purandhar, and, according to some accounts, that other pregnant Brahman women should be sent with her that the risk of mishap might be avoided and the chance of Gangabai's child proving a girl be amended. On the morning of the 30th of January 1774, Nana Fadnavis and Haripant Phadke carried Gangabai from Poona to Purandhar. She was accompanied by Parvatibai, the widow of Sadashivrav, a lady held in high respect, and the reason of her removal was publicly announced.

[Gangabai's Regency, 30th January 1774.](#)

The ministers formed a regency under Gangabai and began to govern in her name. All the adherents of Raghunathrav, who, by this time had advanced beyond Ballari, were thrown into confinement. Negotiations were opened with Nizam Ali and Sabaji Bhonsla, both of whom agreed to support Gangabai and a wide-spread intrigue in Raghunathrav's camp was organized by Krishnarav Balvant. When Raghunathrav heard of the revolt in Poona, with the Pant Pratinidhi and Murarrav Ghorpade, he began to march towards the Haripant Phadke came from Poona to meet him at the head of a division, while Trimabkrav Mama and Sabaji Bhonsla were advancing from Purinda. On the 4th of March 1774 Raghunathrav met and defeated the minister's troops under Haripant Phadke near Pandharpur in Sholapur. The news of this defeat filled Poona with alarm. The people packed their property and fled for safety to retired villages and hill forts. Instead of marching on Poona Raghunathrav passed north to receive the aid of Holkar, Sindia, Gaikwar, and the English. On the 18th of April 1774, a son was born to

Gangabai, Narayanrav's widow. In Grant Duff's opinion, notwithstanding the suspicious circumstances which formed part of the minister's scheme, there is little doubt that the child was the son of the murdered Narayanrav.

[Madhavarao Narayan, Seventh Peshwa, 1774-1795.](#)

The child was named Madhavrav Narayan, afterwards known as Savai Madhavrav. Gangabai sent Sakharam Bapu and Nana Fadnavis to receive her son's robes of investiture, which the Raja sent from Satara in charge of Nilkanthrav Purandhare. The infant Madhavrav was formally installed Peshwa when he was forty days old. [Grant Duffs Marathas, 368.] Jealousy soon sprang up among the ministers. Nana Fadnavis was too cautious to take the lead and supported Sakharam Bapu as the head of the government. This conduct was as much due to timidity as to design. Sakharam Bapu was an old, cautious, time-serving courtier, but he was a man of much more courage than Nana, and, in his humble and assiduous colleague and adherent, he did not see a future rival and a powerful foe. So great was Sakharam Bapu's influence that his secession would have ruined the minister's cause. Nana's position was greatly strengthened by Gangabai's passion for him. He could thoroughly trust her and teach her the best means of governing the old ministers. Nana's cousin Moroba, who had been Madhavrav's ostensible prime minister, was dissatisfied to find that little deference was paid to his counsel. If he could have done it with safety and made sure of a future rise to power, he would readily have gone back to Raghunathrav. Such of the other ministers as would not submit to Sakharam and Nana were soon united in common discontent. This split among the ministers became generally known by the discovery of a correspondence on the part of Moroba, Bajaba, and Bahaji Naik with Raghunathrav. Letters intercepted by Haripant near Burhanpur showed that these three had formed a plan to secure Sakharam Bapu, Nana, Gangabai, and the infant Madhavrav, all of whom, during the rains, to escape the chill damps of Purandhar, had come to live in Sasvad. They heard of this conspiracy on the 30th of June, and with undissembled panic fled to the fort. The discovery of their plot defeated the designs of the feeble triumvirate. The ministers sent agents through the country to blacken the crimes of Raghunathrav and hold forth on the justice of the ministers' cause. At the same time they breathed nothing but union and concord. They determined to gain Raghunathrav's absolute submission; and their active and judicious preparations for war showed that they understood the best means of ensuring peace. [Grant Duffs Marathas, 370.] When Raghunathrav passed north instead of marching on Poona he sent an

agent to the British resident with hurried and vague applications for aid in men and money. The British were willing to help him, but before any agreement could be made he had retired too far for communication from Poona. Negotiations were next opened with Mr. Gambier the English chief or civil governor of Surat. In the latter part of 1774 the ministers won both Sindia and Holkar to their side and sent an army of 80,000 men under Haripant Phadke to pursue Raghunathrav. In the beginning of 1775 Sakharam and Nana returned to Purandhar and from it transacted all affairs.

Treaty of Surat, 1775.

On the 6th of March 1775 Raghunathrav entered into a treaty with the English, which is known as the treaty of Surat. [Under the treaty of Surat the Bombay Government engaged at once to send 600 European and 1000 Native troops with a due proportion of artillery to help Raghunathrav. They pledged themselves to make up the number to 700 or 800 Europeans and 1700 sepoy, with gun-lascars, artificers, and pioneers, the whole amounting to 3000 men. Raghunathrav engaged on account of 2500 men to pay £150,000 (Rs. 1½ lakhs) a month with a proportionate increase or decrease according to the number of men supplied. As a security for the payment he made over temporarily the districts of Amod, Hansot, Balsar, and part of Anklesvar in Central Gujarat, and ceded in perpetuity Bassein with its dependencies, the island of Salsette, and the other islands; the districts of Jambusar and Olpad in Central Gujarat; and an assignment of Rs. 75,000 annually upon Anklesvar in Broach, the whole amounting to £192,500 (Rs. 19,25,000) a year. He engaged to procure the cession of the Gaikwar's share of the revenue of Broach, and to pay all expenses the Company might incur in obtaining possession of the specified cessions, which were to be considered as belonging to them from the date of the treaty. As Raghunathrav was destitute of other funds, he deposited jewels valued at upwards of £60,000 (Rs. 6 lakhs) as a security for the promised advance, pledging himself to redeem them. The protection of the Company's possessions in Bengal and those of their ally the Nawab of Arkot was also provided for; and all British ships or vessels sailing under the protection of the British flag which might have the misfortune to be wrecked on the Maratha coast were to be given to the owners. Grant Duff's Marathas, 877. In 1803 the jewels were restored to Bajirav as a free gift from the Company. Ditto.] With their help he went to Cambay in Gujarat, and on the plain of Aras about ten miles east of Anand in Kaira, defeated Haripant Phadke and his adherent Fatehsing Gaikwar. This news caused the ministerial party great alarm Nizam Ali pressed them hard,

professed sympathy with Raghunathrav, and doubts of the legitimacy of the young Madhavrav, and, to remain quiet, received a grant of land worth £180,000 (Rs.18 *lakhs*) a year. The Maratha nobles had no dislike to Raghunathrav, and, if the next campaign proved as successful as the last, would probably have made no objection to his being named regent of the young Madhavrav. Raghunathrav was disliked by many Poona Brahmans, even by those who did not believe he was a party to the murder of Narayanrav. The bulk of the people seemed to have no stronger feeling against him than that he was unlucky. [Grant Duffs Marathas, 387.] The success which had attended the efforts of the English to help Raghunathrav and the advantages the English had gained by their alliance were lost by the action of the lately arrived members of the Bengal Council, who, contrary to the opinion of the President, Mr. Hastings, declared the Bombay treaty with Ragunathrav impolitic, dangerous, unauthorised, and unjust, and sent Colonel Upton to Poona to conclude a treaty between the ministers and the Bombay Government. [Grant Duff's Marathas, 390,391.] This ill-judged interference strengthened the hands of the ministers at Purandhar and ultimately cemented the tottering Maratha confederacy under the administration of Nana Fadnavis. In December 1776 Sakharam Bapu received a letter from the Governor General stating that the Bombay Government had acted beyond their powers in going to war without the sanction of the Bengal Government, that they had been ordered to withdraw their troops, and that an envoy had been sent to conclude peace [Grant Duff's Marathas, 392.] Colonel Upton arrived at Purandhar on the 28th of December 1775 The ministers took full advantage of the power which the mistaken policy of the Bengal Government had placed in their hands. They assumed a high tone of demand and menace, which Colonel Upton judged to be firm and sincere. Colonel Upton though upright and moderate was-ill-qualified to conduct a negotiation with Maratha Brahmans. The ministers greatly extolled the just and honourable motives which had determined the great Governor of Calcutta to order peace to be concluded. But when Colonel Upton proposed that the English should keep Salsette and the islands in the Bombay harbour, the cession of Bassein which they had obtained in the late war together with the revenue of Broach, the ministers were astonished that a Government which had so justly condemned the war could be so ready to keep the fruits of it. Colonel Upton argued that, Salsette was taken possession of as a precautionary measure long deemed necessary to the safety of Bombay, and the prosperity of its commerce. But the ministers would listen to nothing. They had been put to immense expense by keeping armies idle at the wish of the Bengal Government, which, if they had not been interfered with, would have long since settled the whole

matter. They demanded the immediate surrender of Raghunathrav and the entire restoration of the territory occupied by the Bombay Government since the beginning of the war. If Raghunathrav was given up and all the territory restored, the ministers as a favour to the Governor General would pay £120,000 (Rs. 12 *lakhs*) to reimburse the East India Company for the expenses incurred by the Bombay Government. They seconded their arguments with threats, and mistook the mild remonstrances of the envoy for timidity. As Colonel Upton could not agree to these proposals on the 17th of February he wrote to the Governor General that he supposed negotiations were at an end. But almost immediately after they had carried their menaces to the highest pitch the ministers agreed to the greater part of Colonel Upton's original demands.

[Treaty of Purandhar, 1776.](#)

Before accounts and time to reach Calcutta that the negotiations were broken of the treaty of Purandhar was settled and signed on the 1st of March 1776. The chief provisions were that Salsette or a territory yielding £30,000 (Rs. 3,00,000), and Broach and territory worth £30 000 (Rs. 3,00,000) more should be left with the English and £120,000 (Rs. 12 *lakhs*) paid to them on account of war expenses that the treaty with Raghunathrav was annulled; that the English were to return to garrison and Raghunathrav's army be disbanded within a month; and that Raghunathrav was to get an establishment and live at Kopergaon on the Godavari. [Grant Duffs Marathas, 393-394. The Peshwa's name was not mentioned in the treaty. The ministers Nana and Sakharam probably left out the name, that in case the child Madhavrav should die Gangabai might adopt another son.] The Bombay Government still clung to Raghunathrav's cause and received him with 200 followers at Surat, where he appealed to the Directors and to the King. The ministers threatened war if Raghunathrav's army was not disbanded. To this the Bombay Government paid no attention, and their position was strengthened by the arrival at Bombay on the 20th of August 1776 and again in November 1777, of despatches from the Court of Directors approving the Bombay treaty of Surat with Raghunathrav, and censuring the great and unnecessary sacrifice of the Bengal treaty of Purandhar with the ministers. Though hostilities had ceased, peace was not established. [Grant Duff's Marathas, 396.] In October 1776 a man claiming to be Sadashiv Chimnaji, the leader of the Marathas at Panipat, with the support of the Bombay Government possessed himself of the greater part of the Konkan and seized the Bor pass and Rajmachi fort. Near Rajmachi he was attacked and defeated by a ministerial force, fled to Kolaba, was given up by Angria, and was

dragged to death at an elephant's foot in Poona. On the 11th of November Raghunathrav was allowed to live in Bombay and an allowance of £1000 (Rs. 10,000) a month was settled on him. [Grant Duff's Marathas, 398.] In November Colonel Upton was recalled from Poona and Mr. Mostyn was sent as envoy in his place. The Poona ministers next showed their dislike to the English by trying to establish their enemies the French in a position of power in Western India. At Poona an agent of France was received with distinction and Mr. Mostyn was treated with studied coldness. In the middle of March 1777 several Frenchmen, who landed at Cheul in Kolaba went to Poona, and, early in May 1777, one of them St. Lubin was received in Poona as an ambassador from France. The port of Cheul was promised to the French and an agreement made for the introduction of troops and warlike supplies. [Account of Bombay (1781). St. Lubin had been in India before. Though he was not an ambassador, St. Lubin had authority from the French to find what advantage could be gained from an alliance with the Marathas. He offered Nana to bring 2500 Europeans and 10,000 disciplined sepoys, and abundance of war stores.] Though the treaty of Purandhar and the suppression of Sadashiv's rising had strengthened the ministers' government in the Deccan, in the Bombay Karnatak they had suffered several reverses from Haidar and the Kolhapur chief. In September 1777, Gangabai the infant Peshwa's mother died from a drug taken to conceal the effects of her intimacy with Nana Fadnavis. In October 1777, Mr. Hornby the Governor of Bombay reviewed the position of the Poona ministers, and showed how their difficulties were increased by Sindia's and Holkar's want of support, by the defection of other Maratha nobles, by Haidar's victories, and by Gangabai's death. [Grant Duff's Marathas, 404.] The effect of Mr. Hornby's minute must have been greatly increased at Calcutta by the length which Nana's hate of the English carried him in his dealings with St. Lubin and by the Directors' despatch received in November 1777 strongly censuring the Calcutta treaty of Purandhar, and, under suitable circumstances approving an alliance with Raghunathrav. [Grant Duff's Marathas, 406.] Meanwhile (1778) at Poona dissensions among the ministerial party increased. Nana Fadnavis despised the abilities of his cousin Moroba Fadnavis, but, with a Brahman's caution, he was at more pains to conceal his contempt than his enmity. Moroba was supported by all Raghunathrav's partisans, particularly by Bajaba Purandhare, Sakharam Hari, Chinto Vithal, Vishnu Narhar, and lately by Tukoji Holkar. Still Nana was confident, a spirit which Mr. Mostyn believed was due to assurance of support from France. After the death of Gangabai, Sakharam began to be jealous of Nana and expressed a qualified approval of a plan to restore Raghunathrav, and Moroba wrote to the Bombay Government

proposing the restoration, of Raghunathrav. The Bombay Government, who from Nana's dealings with the French were satisfied that their safety depended on a change of ministry at Poona, agreed to restore Ragunathrav, provided Sakharam Bapu, the chief authority in Poona, expressed his approval of the scheme in writing. The decision of the Bombay Government was approved by the Governor General. To help their plans and to counteract French designs in Western India, a force under Colonel Leslie was ordered to cross the continent, and place themselves under the orders of the Government of Bombay. [The force consisted of six battalions of sepoy, proportionate artillery, and some cavalry. Grant Duff's Marathas, 406.] Sakharam Bapu refused to record in writing his approval of the plan to restore Raghunathrav and further action was stopped. At Poona Nana attempted but failed to seize Moroba. In spite of this failure, with the help of Sakharam Bapu and with the offer of a position in the ministry, Nana succeeded in inducing Moroba to join his party. The effect of this change was at first a loss to Nana. Moroba, with the help of Holkar's troops, was more powerful than Nana, who retired to Purandhar and agreed to the plan for bringing Raghunathrav to Poona provided no harm should come to himself or his property. But Nana, by reminding Sakharam Bapu of the evil results of Raghunathrav's former term of rule at Poona, persuaded Sakharam Bapu and through Sakharam Bapu persuaded Moroba to give up the idea of bringing Raghunathrav back. The enjoyment of power under the existing arrangement and Nana's persuasion led Moroba still further to adopt Nana's views and favour St. Lubin and French alliance.

The Bombay Government remonstrated with the ministers for keeping St. Lubin in favour in Poona. Nana saw that the English would not stand further friendship between the French and the Marathas. He accordingly dismissed St. Lubin in July, and granted passports for the Bengal troops through Maratha territory on their way across India to counteract French influence in Western India. While dismissing St. Lubin, Nana assured him that if St. Lubin could bring a French corps to India he would grant the French an establishment in Maratha territories; and, while granting passports to the British for safe conduct through Maratha territory, Nana was sending secret orders to the Maratha officers and to the Bundelkhand chief to do what they could to stop the English. [Grant Duff's Marathas, 409-410.]

[Nana Fadnavis, 1778.](#)

Nana allowed Moroba to remain in power for about a year. On the 8th of June 1778 Haripant Phadke and Mahadji Sindia joined Nana at

Purandhar and a bribe of £90,000 (Rs. 9 *lakhs*) removed the source of Moroba's strength by the transfer of Holkar from Moroba's interests to the interests of Nina. [Grant Duff's Marathas, 408.] On the 11th of July 1778, Moroba was seized by a party of Sindia's horse, made over to Nana, and placed in confinement. The whole of Moroba's party were arrested except Sakharam Bapu, who, for the sake of the Purandhar treaty, had to be left at liberty. [Grant Duff's Marathas, 401. Among the better type of Marathas who devoted their lives to the attempt to place at the head of the state the generous soldier Raghunathrav, instead of Nana the scheming and cowardly courtier, was a Kayastha Prabhu named Sakharara Hari. Sakharam, who had spent his life in Raghunathrav's service and never wavered from his master's interest, was arrested with others of Moroba's party. He was chained in irons so heavy that, though a man of unusual strength he could hardly lift them. His allowance of food and water was slow starvation. Still at the end of fourteen months when too weak to rise, his spirit and his love for his master remained unshaken. My strength is gone, my life is going, when voice and breath fail my bones shall shout Raghunathrav, Raghunathrav.] In spite of Nana's triumph, the Bombay Government resolved to continue their efforts to place Ragunathrav in the regency, and directed Colonel Leslie to march on Junnar. At Poona, Nana Fadnavis on the plea of age, removed Sakharam Bapu from the administration, and placed a body of Sindia's troops over his person and house. Self-mounted horsemen or *shiledars* were recruited all over the country and ordered to assemble at the *Dasara* festival in October. In the different ports vessels were refitted, forts were provisioned and repaired, fresh instructions were despatched to harass Leslie's march, and an agent was sent to Bombay to amuse the Government by making overtures to Raghunathrav. This last deception failed, as the Bombay Government knew from Mr. Lewis what was going on in Poona.

[English Expedition, 1778.](#)

On the 22nd of November 1778, under agreement with Raghunathrav, an advanced party of British troops under Captain James Stewart, consisting of six companies of native grenadiers from different corps with a small detail of artillery, moved from the port of Apti in Kolaba, took possession of the Bor pass without opposition, and encamped at Khandala. The main force landed at Panvel in Thana on the 25th November, but from delay in making a road for the gnus up the Bor pass, they did not reach the top of the pass till the 23rd of December 1778. The force was under the command of Colonel Egerton and Mr. Carnac. It included 591 Europeans, 2278 Native Infantry and 500 gun

lascars. They were accompanied by Raghunathrav, his adopted son Amritrav, and a few horse. Some skirmishing had taken place between Captain Stewart and small parties of the enemy, in which the British sepoys showed great zeal. At Khandala Colonel Egerton, the commanding officer, reserving the advance as a separate corps under Captain Stewart, divided the main body of his force into two brigades, one commanded by Lieutenant Colonel Cay and the other by Lieutenant Colonel Cockburn. Through fairly level, though in places somewhat marshy land, these three divisions advanced at the rate of about three-quarters of a mile a day, one division always occupying the ground which the other had quitted. In this way eleven days passed before they reached Karla a village eight miles from the ground which Captain Stewart had occupied about six weeks before.

[Vadgaon, 1778.](#)

The extraordinary slowness of this march encouraged the enemy's advance guard, which under Bhivrav Yashvant Panse brought infantry, rockets and guns to harass them, but on every occasion were attacked and driven back with the greatest spirit. During the march from Khandala the army lost Lieutenant Colonel Cay an excellent officer, who was mortally wounded by a rocket on the 31st of December. A still more serious loss was at Karla, on the 4th of January 1779, the death of Captain Stewart the leader of the advance, a true soldier active gallant and judicious, whose distinguished courage so impressed the Marathas that for years he was remembered as Stewart Phakde or Hero Stewart. This creeping advance of the Bombay army gave Nana Fadnavis and Mahadji Sindia ample time to gather their forces. As the chief signer of the Purandhar treaty Sakharam Bapu could not well be longer kept under restraint, and, after a formal reconciliation, he nominally returned to his office of minister. Nana's military leaders were Mahadji Sindia, Haripant Phadke, and Tukoji Holkar. But, as in spite of his bribe of £90,000 (Rs. 9 *lakhs*), Nana mistrusted Holkar, he was kept in a position from which it was almost impossible for him to join Raghunathrav. As the English drew near, the Maratha army advanced to Talegaon about twenty miles east of Khandala and eighteen miles west of Poona. On the 6th of January 1779, ill health forced Colonel Egerton to resign the command to Colonel Cockburn. Colonel Egerton started for Bombay, but as the Marathas had cut off communications he was forced to return to the army where he continued a member of the committee. On the 9th of January 1779, when the Bombay army reached Talegaon, the Marathas retired. The village was found to be burnt, and it was said that if the Bombay army advanced further Chinchwad and Poona would also be burnt. Though

they were within eighteen miles of Poona and had stores and provisions for eighteen days the Committee, that is apparently Mr. Carnac, scared by the union and the determination of the Marathas proposed a retreat. In vain Raghunathrav, who had once led 50,000 of his countrymen from the Narbada to the Attok, pleaded for an action, one success would bring forward numbers of his partisans; in vain Mr. Reid, Mr. Mostyn's assistant stated that a party of horse in Moroba's interest were on their way from the Konkan; in vain Colonel Cockburn engaged to take the army to Poona and Captain Hartley and Mr. Holmes argued that if an advance was impossible negotiations should at least be begun before a retreat was ordered. The committee had determined to retreat and did not delay one day. At eleven on the night of the 11th of January the heavy guns were thrown into a pond, stores were burnt, and 2600 British troops began to retreat before 50,000 Marathas. [Grant Duff's Marathas, 415. Mr. Lewis estimated the Maratha force at 35,000; the Marathas at 100,000; Colonel Cockburn at 120,000; Grant Duff at 60,000.] The Committee imagined their retreat would remain unknown. By two next morning, within three hours of their start, a party of Marathas fired on the advanced guard; shortly after the rear also was attacked and the baggage plundered; at daybreak the army was surrounded and large bodies of horse were coming to the attack. The weight of the assault fell on the rear, composed of Hero Stewart's six companies of grenadiers and two guns now under the command of Captain Hartley a distinguished officer and well known to the men. Shortly after sunrise the rear was again attacked by the main body of the Marathas, horse foot and guns. The sepoys fought with enthusiasm, the red wall, as Sindia said, building itself up again as soon as it was thrown down. [Grant Duff's Marathas, 425.] Five companies of Europeans and two companies of sepoys were sent to support Captain Hartley, who, in spite of constant attacks, continued till noon to keep the Maratha force at bay. During the whole of the morning the main body of the army were engaged in returning the fire of the Maratha artillery and suffered little loss. About noon Major Frederick was sent to take the command in the rear. About an hour after Major Frederick was ordered to retire on the main body and the whole force moved to the village of Vadgaon where the advance guard was posted. Crowds of followers pressed in and the entrance into Vadgaon was a scene of confusion and loss. At last the troops cleared themselves, drove off the Maratha horse, got guns into position, and by four in the afternoon the army had some respite. Early next morning (13th January 1779) the enemy's guns opened on the village and a body of infantry advanced to attack it. They were repulsed, but a feeling spread among some of the officers that the men were dispirited and were ready to desert. The commander's

example encouraged this feeling. A further retreat was deemed impracticable, and Mr. Farmer the secretary of the committee was sent to negotiate with the ministers. [The English loss on the 12th January was fifty-six killed, 151 wounded, 155 missing. Of the killed and wounded fifteen were European officers. Grant Duffs Marathas, 417.] The ministers demanded Raghunathrav, but the committee were saved the disgrace of surrendering him, by Raghunathrav's agreeing to give himself up to Sindia. The ministers, that is Nana and Sindia who between them held the real power, insisted that the committee should agree to surrender all the territory which the Bombay Government had acquired since the death of Madhavrav Ballal (1772), together with the Company's revenue in Broach and Surat which the Marathas had never possessed. When these terms were laid before the committee Captain Hartley pleaded that one more effort might be made to retreat but his proposal was rejected. A message was sent to the ministers that the committee had no power to enter into any treaty without the sanction of the Bombay Government. Still Mr. Carnac immediately after sent Mr. Holmes to Sindia with full power to conclude a treaty. Sindia, though highly flattered by this direct negotiation, gave in nothing from the Maratha demands, and Mr. Holmes had to agree that everything should be restored to the Marathas as in 1772 and that a message should be sent to stop the advance of the Bengal troops. Sindia's favour was purchased by a private promise to bestow on him the English share of Broach and by the gift of £4100 (Rs. 41,000) to his servants. The Bombay army, after leaving Mr. Farmer and Colonel Stewart as hostages, were allowed to withdraw.

Mr. Carnac's first act on reaching the Konkan was to suspend his order stopping the advance of the Bengal troops. [Grant Duff's Marathas, 418.] When news of the disgrace at Vadgaon reached Bombay Mr. Hornby disavowed Mr. Carnac's power to make a treaty. On the 19th of February he proposed to the council that their object should be to secure peace so as to exclude the French from the Maratha dominions and to prevent the cession of English territory. He thought the £4100 (Rs. 41,000) spent in presents to Sindia's servants should be paid and the promise of the grant of Broach to Sindia confirmed. [Grant Duff's Marathas, 420.]

Goddard's March 1779.

The position of the English which was almost ruined by the disaster at Vadgaon was retrieved by the success of Goddard's march. On hearing that the Bombay army had suffered a defeat at Vadgaon, Goddard pressed on with speed from Rajegad in Bundelkhand and reached

Surat on the 25th of February 1779. [Goddard's route lay through Multan, Khemlassa, Bhilsa, Bhopal, and Burhanpur. After refreshing his army at Burhanpur he resumed his march the 6th of February, and, in twenty days, reached Surat a distance of 300 miles.] When news of Vadgaon reached the supreme Government they ordered Goddard, whom they had already appointed their plenipotentiary, to conclude a treaty with the Marathas. The new treaty was to be on the basis of the Purandhar treaty with an additional articles excluding the French from any establishment in Maratha territory, Goddard was also, if he gained the opportunity, to come to a separate arrangement with Sindia. [Grant Duff's Marathas, 424.] Sindia who continued to keep Raghunathrav in his power arranged that lands worth £1,200,000 (Rs. 1,20,00,000) a year should be settled on Raghunathrav in Bundelkhand. On his way to Bundelkhand Raghunathrav escape from his guard and reached Surat where he prayed General Goddard to give him shelter. Goddard agreed to shelter him (12th June 1779) and gave him an allowance of £5000 (Rs. 50,000) a month The escape of Raghunathrav caused some coldness between Nana and Sindia. This passed off and Holkar and Sindia with 15,000 horse agreed to oppose Goddard in Gujarat. [Grant Duff's Marathas, 431.]

When the rains of 1779 were over, as the Marathas refused to come to terms, troops were sent from Bombay and overran North Thana and secured the revenue. On the 1st of January 1780 Goddard marched south from Surat to act with the Bombay troops. In December 1780 he captured Bassein, while Hartley defeated the Marathas with heavy loss at the battle of Dugad about twenty miles north of Thana. After these successes in the Konkan, in the hope that a display of vigour would bring Nana to terms, Goddard advanced and took the Bor pass on the 1st of February 1781. Goddard kept his head-quarters at Khopivli or Kampoli at the foot of the pass and sent proposals to Nana. Nana who was busy collecting troops negotiated for a time, and, when his preparations were ready, returned Goddard's proposals on the ground that no terms could be considered which did not provide for the safety of the Marathas' ally Haidar of Maisur. On the 15th of April Goddard began to retreat on Bombay. From the first he was sorely pressed by the Marathas. Only his skill as a general and the courage of his troops enabled him on the 23rd of April to bring them safely to Panvel. The Marathas considered this retreat of Goddard's one of their greatest successes over the English. In September 1781 Lord Macartney, Sir Eyre Coote, Sir Edward Hughes, and Mr. McPherson addressed a joint letter to the Peshwa stating their wish for peace, the moderation of the Company's views, the desire of the British nation to conclude a firm and lasting treaty which no servant of the Company should have

power to break, and assuring the Peshwa that satisfaction should be given in a sincere and irrevocable treaty. General Goddard, who still considered himself the accredited agent on the part of the supreme Government, also opened a negotiation, and assumed, what was privately agreed, that Sindia should use his endeavour to obtain a cessation of hostilities between the Peshwa and the English until the terms of a general peace could be adjusted. In January 1782 the Bombay Government sent Captain Watherstone to Poona, but shortly after his arrival official intelligence was received that Mr. David Anderson had been deputed to Mahadji Sindia's camp, as Agent of the Governor General with full powers to negotiate and conclude a treaty with the Marathas. On this Captain Watherstone was recalled.

Treaty Salbai, 1782.

At last on the 17th of May the treaty of Salbai was concluded and ratified by the Peshwa on the 20th of December 1782. [Grant Duff's Marathas, 452.] Its chief provisions were that Raghunathrav should have £2500 (Rs. 25,000) a month and live where he chose; that all territory should remain as before the treaty of Purandhar; that all Europeans except the Portuguese should be excluded from the Maratha dominions; that Haidar should be compelled to relinquish his conquests from the English; and that Broach should be given to Sindia for his humanity to the English after the convention of Vadgaon. Raghunathrav accepted the terms of the treaty and fixed his residence at Kopargaon on the Godavari in Ahmadnagar. He survived only a few months. His widow Anandibai shortly after gave birth to a son Chimnaji Apa. The infant Chimnaji together with Bajirav, who at the time of his father's death was nine years old, remained at Kopargaon till 1793 when Nana Fadnavis removed them to Junnar. [Grant Duff's Marathas, 459, 520.]

In 1784, a conspiracy formed with the object of deposing Madhavrav Narayan and raising Bajirav, the son of the late Raghunathrav was discovered and crushed by Nana. In the same year Mudaji Bhonsla the chief of Berar visited Poona. He showed a sincere desire to connect himself with the head of the state, and, in the name of his son Raghuji, entered on a new agreement pledging himself never to assist the English against the Peshwa's Government and promising to co-operate in the expected war with Tipu. One effect of the treaty of Salbai was greatly to favour Sindia's desire to form an independent Maratha dominion. In 1784 he took Gwalior from the Rana of Gohad who had forfeited his claim to British protection; he obtained supreme authority at Delhi; he was appointed commander-in-chief of the

Moghal forces and manager of the provinces of Delhi and Agra; and made a claim on the British for *chauth* for their Bengal provinces which was disavowed by Mr. McPherson. In 1785 the news of Sindia's success in Northern India was received at Poona with surprise and joy. A small body of the Peshwa's troops was sent to join him as a measure of policy to preserve the appearance of the Peshwa's co-operation and supremacy. In the same year at Nana's desire Mr. Charles Malet was chosen to be British resident at Poona.

In December 1789, on hearing of Tipu's movements, Nana Fadnavis made specific proposals to the Governor General in the name both of his master and of Nizam Ali. These proposals with slight modifications were accepted. A preliminary agreement was settled on the 29th of March 1790, and, on the 1st of June, for the suppression of Tipu an offensive and defensive treaty was concluded at Poona between Mr. Malet on the part of the Company and Nana Fadnavis on the part of the Peshwa and Nizam Ali. [Grant Duff's Marathas, 484.]

Sindia in Poona, 1792.

In 1792 Sindia, who was supreme at the Delhi Court, marched from the north towards Poona bearing from the Emperor of Delhi to the Peshwa the deeds and robes of the hereditary office of *Vakil-i-Mutlak* or Chief Minister, whose hereditary deputy in North India was to be Sindia. Nana Fadnavis applied to the English for the permanent services of Captain Little's Detachment which had acted with Parashuram Bhau in the war in the Karnatak in 1790 and 1791. This proposal was not agreed to. Sindia, afraid that Nana might enter into some such arrangement with the English, and to, allay Nana's well-founded jealousy of his regular infantry, brought with him only a small party under an Englishman named Hessian and a complete battalion commanded by Michael Filoze and Neapolitan. Sindia reached Poona on the 11th of June and pitched his camp near the Sangam or meeting of the Mutha and Mula rivers, the place assigned by the Peshwa for the residence of the British envoy and his suite. Nana, who was jealous of Sindia, did all he could to prevent the Peshwa's accepting the titles and insignia brought from the emperor. He represented the impropriety of adopting some of the titles, especially that of *Maharaj Adhraj*, the greatest of great rajas, which was inconsistent with the constitution of the Maratha empire. Still Sindia persisted and the Raja of Satara gave the Peshwa leave to accept the honours. Nine days after his arrival, Nana visited Sindia who received him in the most cordial manner, refused to sit on his state cushion in the minister's presence, and treated him with the greatest respect. Next day Sindia paid his

respects to the Peshwa, carrying with him numberless rarities from North India. The following morning was fixed for the ceremony of investing the young Peshwa with the title and dignity of *Vakil-i-Mutlak*. Sindia spared no pains to make the investiture imposing. Poona had never seen so grand a display. The investiture of Sindia as the Peshwa's deputy in the office of *Vakil-i-Mutlak* filled the next day. In spite of the outward success of these ceremonies the Marathas and Brahmans of Poona and the Deccan remained unfriendly to Sindia. Sindia hoped by the magnificence of his presents to gain the goodwill of the Peshwa. He also, in contrast to Nana's strictness and decorum, took pains to please the Peshwa, making hunting and water parties for his amusement. These efforts of Sindia's had so much success that Nana in an interview with the Peshwa, after reminding him what services he had rendered, warned him of the danger he ran if he put himself in Sindia's hands, and asked leave to retire to Benares. Madhavrav was much affected and promised that nothing would persuade him to desert Nana for Sindia. So bitter was the feeling between Nana and Sindia that disputes nearly ended in an outbreak. This danger was removed by the death of Mahadji Sindia of fever after a few days' illness at Vanavdi about two miles east of Poona on the 12th of February 1794. [Grant Duff's Marathas, 503.] Mahadji Sindia's career had been most eventful. He was the chief Maratha leader for about thirty-five years, he mediated between the Peshwa and the English, and he ruled the puppet emperor of Delhi with a rod of iron. He was succeeded by his grand nephew Daulatrav Sindia, then in his fifteenth year. Nana Fadnavis was now the only Maratha statesman. The Maratha confederacy still maintained the nominal supremacy of the Peshwa; hut the people were losing their adventurous spirit and each chieftain was gradually becoming independent of any central authority. Between Sindia's death in February 1794 and the close of the year the progress of events was in Nana's favour. But the disputes between him and Nizam Ali regarding arrears of tribute grew more and more complicated. Sir John Shore would not interfere and war was begun in 1794. For the last time all the great Maratha chiefs served together under the Peshwa's banner. Daulatrav Sindia Mahadji's successor, and Tukoji Holkar were already at Poona, and the Raja of Berar had set out to join; Govindrav Gaikwar sent a detachment of his troops; the great southern vassals the Brahman families of Patvardhan and Rastia, the Brahman holders of Malegaon and Vinchur, the Pratinidhi, the Pantsachiv, the Maratha Mankaris, Nimbalkar, Ghatge, Chavhan, Dafle, Povar, Thorat, and Patankar with many others attended the summons. The Peshwa left Poona in January 1795, and the great Maratha army marched at the same time, but by different routes for the convenience of forage. The army included upwards of

130,000 horse and foot, exclusive of 10,000 Pendharis. [Of this force upwards of one-half were either paid by the Peshwa's treasury, or were troops of vassals under his direct control. Daulatrav Sindia's force was more numerous and more efficient than that of any other chieftain, although the greater part of his army remained in North India and Malwa. Jivba Dada Bakshi commanded Immediately under Daulatrav and had lately joined him with a reinforcement. The whole consisted of 25,000 men, of whom 10,000 were regular infantry under De Boing's second-in-command M. Perron. Raghuji Bhonsla mustered 15,000 horse and foot, Tukoji Holkar had only 10,000, but of these 2000 were regulars under Dudrenec and most of the Pendharis were followers of Holkar Parashuram Bhau].

Nana's Triumph, 1795.

Nana Fadnavis consulted the chief officers separately, and seems to have adopted the plans of Jivba Dada Bakshi the Shenvi commander of Sindia's troops, and of Tukoji Holkar. He appointed Parshuram Bhau to act as commander-in-chief. The war ended on the 11th of March by the defeat of the Moghals at Kharda in the Jamkhed sub-division of Ahmadnagar, a defeat due more to Moghal panic than to Maratha bravery. Nizam Ali was obliged to treat and surrender an obnoxious minister Mashir-ul-Mulk, who had resisted the Maratha claims. After the battle the Peshwa returned to Poona; Nana Fadnavis was employed in distributing the acquisitions and in settling affairs with the different chiefs; Parshuram Bhau and Raghuji Bhonsla remained near Poona; Holkar encamped at Jejuri about twenty-five miles south-east of Poona; and Sindia at Jamgaon in Ahmadnagar. By the middle of September 1795 Daulatrav Sindia had taken leave of the Peshwa and gone to Jamgaon on his way to Hindustan; Parashuram Bhau had returned to Tasgaon in Satara; Holkar remained at Poona; and Raghuji Bhonsla left Poona at the middle of October being dismissed with great honour. Nana Fadnavis was at the height of his prosperity. Without calling the help of any foreign power he had gained every object of his ambition. Daulatrav Sindia was well disposed towards him and Sindia's ministers and officers were more intent on forwarding their own views in the government of their young master than in schemes for controlling the Poona Court. Tukoji Holkar had become imbecile both in mind and body and his officers were in Nana's hands. Raghuji Bhonsla was completely secured in his interests, and the Brahman estate-holders were of his party. The fair prospect that the Peshwa's Government would regain the tone and vigour of the first Madhavrav's time (1761 -1772) was ruined by Nana's fondness for power. His unwillingness to let even his master share with him the control of the

state brought on Nana a catastrophe which undermined his authority, overturned the labour of his life, and clouded his last days with trouble and misery. [Grant Duff's Marathas, 518.]

Madhavrav, 1795.

Though Madhavrav was now (1795) twenty years old, Nana loosened none of the restraints under which he had been reared. At the same time he became more than ever watchful of all the state prisoners whose liberty might endanger his own power. In 1794, before the beginning of the war with Nizam Ali, Bajirav and Chimnaji Apa, the sons of Raghunathrav, with their adopted brother Amritrav were taken from Nasik to the *gadhi* or mud fort of Junnar and were kept there in close custody. The bulk of the people thought the imprisonment of these youths harsh, cruel, and unneeded. The old partisans of Raghunathrav and all who disliked Nana strove to strengthen and embitter this feeling, praising the youths and overdrawing the harshness of their confinement. The knowledge how widely this feeling was spread made Nana still warier and more careful. He felt that Bajirav, the elder brother, though a youth of only nineteen, was a rival whom he had reason to fear. Graceful and handsome, with a mild persuasive manner, Bajirav was famed for skill as a horseman, archer, and swordsman, and for a knowledge of the sacred books greater than any Maratha Brahman of his age had ever been known to possess. Madhavrav heard with delight these accounts of his cousin's skill, and prayed that he might be set free and become his friend.

Bajirav, 1795.

In vain Nana warned him that Bajirav was no friend to him but a rival. The more Nana warned and lectured the stronger grew Madhavrav's longing to know his cousin. Bajirav heard that Madhavrav loved him and was anxious that Bajirav should be set free. Through his keeper Balvantrav, whom after long persuasion he at last won over, Bajirav sent Madhavrav a message of respect and sympathy: We are both prisoners, you at Poona and I at Junnar, still our minds and affections are free and should be devoted to each other; the time will come when we two together will rival the deeds of our forefathers. When Nana heard of this correspondence which had lasted for some time he showed an altogether unusual rage. He upbraided Madhavrav, doubled the closeness of Bajirav's confinement, and threw Balvantrav into a fort loaded with irons. Madhavrav galled by restraint and overwhelmed with anger and grief for days refused to leave his room. At the *Dasara*

on the 22nd of October, he appeared among his troops and in the evening received his chiefs and the ambassadors.

Madhavrav Dies, 1795.

But his spirit was wounded to despair, a melancholy seized him, and, on the morning of the 25th of October 1795, he threw himself from a terrace in his palace, broke two of his limbs, and died after two days, having particularly desired that Bajirav should succeed him. When he heard that Madhavrav had thrown himself from the terrace and was dying, Nana summoned Parashuram Bhau, recalled Raghuji Bhonsla and Daulatrav Sindia, and called in Tukoji Holkar who was in Poona. He hid from them Madhavrav's dying wish that Bajirav should succeed him, and warned them that Bajirav's succession would be certain ruin to any one who had sided against Raghunathrav. He enlarged on the family connection between Bajirav and the English; his accession would end in the English ascendancy; why not continue the prosperous government which the Deccan had for years enjoyed. He proposed that Madhavrav's widow Yashodabai should adopt a son and that Nana should conduct the government till the son came of age Holkar gave this scheme his support, and by January (1796) the leading nobles had agreed to it and withdrawn from Poona. This decision was told to Mr. Mallet. The English could raise no objection and nothing remained but to choose the child. Bajirav was informed of these measures. He knew that Baloba Tatya one of Sindia's officers was well disposed to him; he heard that on his death-bed Jivba Dada Bakshi, Sindia's prime minister, told his master that he was ashamed that he had agreed to keep Bajirav from his rights, and he promised Sindia territory worth £40,000 (Rs. 4 lakhs) if he would help him to become Peshwa. Sindia promised and a formal agreement was drawn up. When Nana heard of the agreement between Bajirav and Sindia, he sent in haste for Parashuram Bhau who marched from Tasgaon in Satara to Poona, 120 miles in forty-eight hours. Nana and Parashuram Bhau agreed that their only chance was to be before Sindia and at once offer the Peshwaship to Bajirav. Parashuram Bhau started for Junnar and made the offer. When Parashuram Bhau had held a cow by the tail and sworn by the Godavari, Bajirav was satisfied and went with him to Poona. As soon as Bajirav reached Poona he had a meeting with Nana Bajirav, assured of the succession, agreed to keep Nana at the head of his administration, and both promised to bury former enmity. When Baloba Tatya and his master Sindia heard that Bajirav had deserted them in favour of Nana they marched on Poona with a large force. The timid Nana was dismayed and told Parashuram Bhau that as it was against him that Sindia was coming he had better retire. Nana

accordingly withdrew to Purandhar and then to Satara. When Sindia reached Poona he had a friendly meeting with Bajirav. But his minister Baloba Tatya could not forgive Bajirav's desertion. He proposed that Madhavrav's widow should adopt Bajirav's younger brother Chimnaji, and that Parashuram Bhau should be prime minister. Parashuram Bhau consulted Nana, and Nana said the scheme was good, provided Parashuram Bhau got Bajirav into his hands. Parashuram Bhau overlooked this condition and told Baloba that his scheme had Nana's approval. Baloba expressed himself pleased as he feared that Nana might organize a combination against his master. Nana obtained the robe of investiture from the Satara chief and was on his way with it to Poona when he heard that Parashuram Bhau had not secured possession of Bajirav. He suspected treachery, sent on the robe, and halted at Vai in Satara. During all this time Bajirav knew nothing of the plot to pass him over in his brother's favour. To settle some dispute, regarding certain arrears of pay he had promised to make good to Sindia, Bajirav went to Sindia's camp. Towards evening confused news came that Parashuram Bhau had seized Chimnaji and carried him off. Bajirav was keen for pursuit; but no one knew where the boy had been taken and till morning pursuit was useless. Bajirav stayed the night in Sindia's camp. Next morning he saw the snare into which he had fallen when he was advised to remain with Sindia as no place outside of the camp was safe for him.

[Chimnaji Madhavrav, Eighth Peshwa, May 1796.](#)

Parashuram Bhau had taken Chimnaji to Poona and on the 26th of May 1796 contrary to his wish, Chimnaji was adopted by the name of Chimnaji Madhavrav and formally invested as Peshwa. The day after the new Peshwa was installed Parashuram Bhau proposed that Nana Fadnavis should come to Poona, be reconciled to Sindia's minister Baloba, and assume the civil administration, while the command of the troops should remain with Parashuram Bhau. In reply Nana Fadnavis requested that Parashuram Bhau's eldest son Haripant, might be sent to Vai to settle preliminaries. Instead of coming as an envoy, Haripant crossed the Nira at the head of 4000 to 5000 chosen horse. Nana's suspicions were strengthened by letter from Babarav Phadke advising him to lose no time in putting himself in a place of safety, and Nana retired to Mahad close to Raygad fort in Kolaba. Nana's fortunes now seemed desperate. But necessity forced him out of his timid and half-hearted measures. He exerted himself with a vigour of judgment, a richness of resource and a power of combining men, which from his European contemporaries gained him the name of the Maratha Machiavel. [Machiavel, a great Italian statesman.] Nana's two chief

enemies were Parashuram Bhau who was acting as minister at Poona and Baloba, Sindia's minister. His chief hope lay in persuading Bajirav, like himself a chief loser under the present arrangement, to throw in his lot with his.

Nana's Triumph, 1796.

In these extremities Nana's wealth, which he had been laying by for years and had placed with trusty bankers all over the country, was of the greatest service. Money could buy some leading man in the Peshwa's army to counteract Parashuram Bhau; money could buy a party in Sindia's camp to oppose Nana's other chief enemy Baloba; if only Bajirav were on his side promises of territory would win Sindia and the Nizam. Nana's negotiations with Bajirav were made easy by the arrival of a trusty dependent now in Bajirav's service bringing friendly assurances from Bajirav who urged Nana to exert himself as their cause was the same. Nana's schemes succeeded. He had Tukoji Holkar ready at a signal to help him with all his power. He won over Babarav Phadke who was in command of the Peshwa's household troops as a make-weight to Parashuram Bhau, and gained Sakharam Ghatge, whose daughter Sindia was most anxious to marry, an enemy of Baloba Sindia's minister. He offered Sindia Parashuram Bhau's estates in the Bombay Karnatak, the fort of Ahmadnagar, and territory worth £100,000 (Rs. 10 *lakhs*) on condition that he would place Baloba in confinement, establish Bajirav as Peshwa, and withdraw to North India. To these terms Sindia agreed. When Bajirav and Babarav Phadke, the commandant of the Peshwa's household troops knew that Sindia's alliance was secured, they began openly to collect troops with funds placed at their disposal by Nana. Baloba Tatya, Sindia's minister, found out that Bajirav and Babarav were raising troops. He seized and imprisoned Babarav in Chakan, surrounded Bajirav's encampment, and disbanded his troops. Baloba thought Bajirav was the root of the whole conspiracy, and arranged that he should be sent to North India under the charge of Sakharam Ghatge. On the way Bajirav used every endeavour to win over Ghatge, and, on the promise that Bajirav when he came to power would get him appointed Sindia's minister, Ghatge allowed Bajirav to halt on the plea of ill-health. Mashir-ul-Mulk, the Nizam's minister, whom he had lately freed from confinement in Poona was allowed by Parashuram Bhau to collect troops to be used against Nana. But Nana had already gained the Nizam and his vizier, promising, if the Nizam helped Bajirav to be Peshwa and Nana to be minister, that the lands won by the Marathas after the battle of Khardā (1795) should be restored to the Nizam and outstanding claims cancelled. On *Dasara* which fell on the 11th of October the regular

battalions in the Peshwa's service under Mr. Boyd marched to the Nira bridge and a brigade of Sindia's regulars started towards Raygad both apparently with the object of crushing Nana. Nana's plans were now complete. On the 27th of October. Sindia arrested his minister Baloba and sent a body of troops, accompanied by some of the Nizam's to seize Parashuram Bhau. Parashuram Bhau was warned and fled, taking Chimnaji Apa, but was pursued and captured. Bajirav was brought back and camped at Koregaon on the Bhima. Nana left Mahad, met the troops which he had collected at the Salpa pass in Satara and was joined by the Peshwa's infantry under Mr. Boyd. Before advancing Nana required a guarantee from Bajirav that no treachery was intended, and that if he ever wished he might resign his post as minister in the certainty that his person and property would be respected.

Nana Fadnavis resumed the duties of prime minister on the 25th of November and Bajirav was installed Peshwa on the 4th of December 1796. The Shastris declared Chimnaji's adoption illegal and after a nominal penance Chimnaji was appointed governor of Gujarat. [Grant Duff's Marathas, 527-529.] The English and Raghuji Bhonsla of Nagpur approved of Bajirav's accession. At the time of his accession Mr. Tone, who was then in Poona, described Bajirav as over middle size, fair, and graceful, with a manly sensible and majestic face and impressive manners.

[Bajirav Raghunath, Ninth and last Peshwa, 1796-1817.](#)

During these irregularities the army had fallen into disorder. In 1797 a desperate affray took place in the streets of Poona between a body of Arabs and a party of Mr. Boyd's sepoys, in which upwards of 100 persons were killed and many shops and warehouses were plundered. The treaties with Sindia and Raghuji Bhonsla were fulfilled, and Raghuji left for Nagpur. But as Bajirav, unless it was greatly modified, refused to ratify the treaty of Mahad with Nizam Ali, Mashir-ul-mulk quitted Poona without taking leave of the Peshwa and returned highly incensed to Haidarabad (13th July 1797). This dispute with the Nizam and the death of Tukoji Holkar in August 1797 considerably weakened Nana's power. On Holkar's death (13th July 1797) Malharav quarrelled with his brother Kashirav, who was imbecile in mind and body, and, with his two illegitimate brothers Yashvantrav and Vithoji, removed, to Bhamburda, about two miles north-west of Poona city. Nana favoured Malharav, and Kashirav applied for help to Sindia. Sindia promised help with the greatest readiness, sent a strong force to Bhamburda, and, as Malharav refused to yield, his camp was

surrendered and he was killed. His half-brothers Yashvantrav and Vithoji escaped. This success gave Sindia power over the whole of Holkar's resources and was a deathblow to the schemes of Nana Fadnavis. Bajirav secretly encouraged Sindia, who, in transferring Angria's estates in Kolaba from Manaji to his own relation Baburav and in other matters, began to exercise a more arbitrary power than the Peshwa had ever claimed. [Grant Duffs Marathas, 501.] Hitherto Bajirav whose appearance and misfortunes always won sympathy was believed to have an excellent natural disposition. This belief was the result of his talent for cajoling and deceiving. From the beginning his conduct was governed by two principles to trust no one and to deceive every one. His great object was to free himself from the control of Sindia and of Nana. Sindia he regarded as a less evil than Nana. At the worst he thought that at any time he could get rid of Sindia by persuading him to go to North India. To free himself from Nana's control Bajirav entered into a plot with Ghatge, whose daughter was not yet married to Sindia, and persuaded him that so long as Nana remained in power Ghatge's hope of becoming Sindia's minister could never be realised. They agreed that Nana should be placed in confinement. On the 31st of December 1797, Nana, while returning a formal visit to Sindia, was seized with, all his retinue; his guards were attacked and dispersed; and under Ghatge's orders Nana's house and the houses of his adherents were plundered. Many resisted; firing went on for a night and day; the whole city was in an uproar; all went armed and in bands.

Nana Seized, 1797.

When Nana was seized in Sindia's camp, Bajirav, as if on business, sent for the leading members of Nana's party and put them in confinement. [See Mr. Uhtoff's Despatches.] Nana was sent to Ahmadnagar fort. Bajirav appointed his own half-brother Amritrav prime minister and raised the unexperienced Balajipant Patvardhan to the command of the army. When as he supposed he had got rid of Nana's control, Bajirav began to devise means for dismissing Sindia. But he had first to carry out the promises he had made. Sindia was married to Ghatge's daughter, and money difficulties caused by marriage expenses and the cost of his army at Poona pressed hard on Sindia, so that he urged Bajirav to give him the £2,000,000 (Rs. 20 lakhs) he had promised. Bajirav said he had not the money. If Sindia would make Ghatge his minister, Bajirav would give Ghatge leave to recover from the rich people of Poona as much as was required. Sindia agreed and Ghatge was made minister and empowered to levy the amount required from the people of Poona.

Poona Plundered. 1797.

Ghatge's first step was to raise money from the members of Nana's party who were confined in Bajirav's palace. These men of high position and reputation were dragged out and scourged till they gave up their property. One of them, a relation of Nana's, was tied to a heated gun, and as he would not part with his property, remained tied to the gun till he died. These cruelties were not confined to Nana's friends. Merchants, bankers, and all in the city who were supposed to have wealth, were seized and tortured with such cruelty that several of them died. Though the plan of levying money by force from the people of Poona was Bajirav's, Bajirav never supposed that the money would be collected with such cruelty. He remonstrated with Sindia but his complaints were of no effect. Amritrav, Bajirav's brother, who did not know that Bajirav had any share in the matter proposed to seize Sindia. To this Bajirav willingly agreed. Before this Bajirav and Amritrav, to make the Peshwa's infantry more nearly a match for Sindia's, had agreed to engage British officers and Mr. Tone was chosen to command the first brigade. Their relations with the Nizam were put forward as the reason for this increase of their troops and Sindia was asked to join in an expedition to recover the arrears due under the treaty of Kharda (1795). Sindia readily agreed. About this time there was much ill-feeling among Sindia's officers and Sindia became very unpopular. Bajirav fostered the feeling of dislike to Sindia, so that if he seized Sindia he might have less difficulty in preventing an outbreak among Sindia's followers. Bajirav arranged with Amritrav that Sindia should be invited to his palace and should be seized by Aba Kale who commanded one of the Peshwa's regular battalions. Sindia was asked to come but excused himself. Bajirav ordered him to attend. At their meeting he upbraided Sindia for his disobedience, and for all the Bufferings which he had caused in Poona. He ordered Sindia to withdraw from Poona to Jamgaon in Ahmadnagar. Sindia expressed the greatest willingness to move, but regretted that until the present arrears of pay were made good, his army could not leave Poona. When the time came to give the signal for seizing him, Bajirav's courage failed and Sindia was allowed to leave. Bajirav had afterwards the meanness and weakness to tell Sindia what Amritrav had intended and to advise him to be on his guard. Fresh difficulties arose from the arrears of pay due to the Peshwa's army. They were ordered to march to Satara to put down a rising. Instead of starting they raised, a riot in Poona and kicked about the street the turban of one of Bajirav's favourites who tried to interfere. Govindrav Pingle, one of the ministers who was in confinement, sent word to Bajirav that the only man who could bring the troops to order was

Naropant Chakradev the former commander who had been imprisoned as a friend of Nana's Bajirav restored both Pingle and Naropant to liberty, and Naropant quelled the tumult in a day. But as Bajirav could not trust Naropant at a distance he had to release Parashuram Bhau to restore order at Satara. Disorders increased at Poona.

[The Widows War, 1797.](#)

Daulatrav Sindia's uncle Mahadji on his death in 1795 had left three widows Daulatrav promised to make ample provision for them and they continued to live in his camp. No provision was made and even their comforts were scrimped. The youngest of the three widows was a beautiful woman and the others either discovered or invented a criminal intimacy between her and Sindia. The ladies openly accused Sindia of the crime and Ghatge who was sent to quiet their complaints being refused an entrance forced his way into their tents and seized and flogged them (1798). The Shenvi Brahmans, of whom Baloba was the head and who before Ghatge's rise to power were the strongest party in Sindia's army, took the side of the widows. After much discussion it was arranged that the widows should be taken to Burhanpur and should be kept there in a state of suitable comfort. On their way to Burhanpur their friends learned that the widows were being taken not to Burhanpur but to Ahmadnagar fort Under the influence of the Shenvi Brahmans a Pathan named Muzaffar Khan, who was in command of a choice body of cavalry, assailed the escort, rescued the widows, and carried them back close to Sindia's camp. Ghatge persuaded Sindia to let him attack Muzaffar. Muzaffar had warning and retired with the widows pursued by Ghatge. He left the ladies in the camp of Amritrav, Bajirav's brother who was near the Bhima, turned on Ghatge, defeated him and put him to flight. Bajirav approved of his brother's kindness to the widows, and asked Colonel Palmer, the British Resident, to mediate between them and Sindia. Sindia refused, and, on the night of the 7th June, sent Ghatge with five battalions of regular infantry under Du Prat, a Frenchman, to surprise Amritrav's camp and seize the ladies. Ghatge's attempt failed and he had to retire with loss. Sindia then promised to arrange for suitable establishment for the ladies, and Amritrav came into Poona and camped close to Sindia. It was the Muharram time and Ghatge under pretence of keeping order, brought two brigades of infantry and twenty-five guns close to Amritrav's camp, suddenly opened fire on it, charged and dispersed Amritrav's troops, and pillaged his camp. This outrage was nothing less than war with the Peshwa. Holkar came and sided with the Peshwa, the other Maratha nobles joined his standard, and the Peshwa negotiated an alliance with Nizam Ali [Under this

treaty the Peshwa confirmed the articles of the treaty of Mahad which was passed between Nana Fadnavis and the Nizam in 1796; Maratha claims on Bedar were remitted and a tract of territory yielding £80,000 (Rs. 8,00,000) of revenue was ceded to Nizam Ali. Nizam Ali agreed to support the Peshwa against any encroachment of Nana Fadnavis, but in case Nana was set free by Sindia it was agreed that Bajirav would allow him a yearly pension of £10,000 (Rs. 1,00,000). Raghuji Bhonsala of Nagpur, if he chose, was to be considered a party to this treaty, and was to receive the whole of Garh Mandla from Bajirav. Grant Duffs Marathas 520] Sindia alarmed by the treaty between the Peshwa and the Nizam tried to arrange a settlement, but the demands of the ladies became so extravagant that nothing could be settled. To intimidate Bajirav Sindia sent an envoy to Tipu, but Bajirav had done the same.

Nana Set Free, 1798.

A more powerful means of influencing Bajirav and also a means of raising money was to set Nana Fadnavis free. Sindia brought Nana from Ahmadnagar and received £100,000 (Rs. 10 lakhs) as the price of his liberty. The release of Nana was shortly followed by the revocation of the treaty between the Peshwa and Nizam Ali. These events forced Bajirav to begin negotiations with Nana Fadnavis, and Sindia, who did not know that the treaty between the Peshwa and the Nizam had been revoked, was anxious to come to terms, insisting only that Nana should be placed at the head of Bajirav's affairs. Meanwhile Ghatge had been acting with such reckless cruelty that Sindia felt that Ghatge's disgraceful acts were alienating the minds of all his supporters. He accordingly gave orders for Ghatge's arrest which was successfully effected, Ghatge's arrest helped to reconcile Sindia and Bajirav. The need of reconciliation was also pressed on them by the change of policy on the part of the English. The timid neutrality which had marked the English policy under Sir John Shore was reversed by the Marquis of Wellesley's arrival in India on the 26th of April 1798. Soon after his arrival the Marquis of Wellesley, then Lord Mornington, directed the Political Agents at Poona and Haidarabad to secure the alliance of those states so that at least their resources might not be applied against the British Government. With the object of removing Sindia from the Deccan who was known to be always anxious to obstruct British influence, the British agent at Poona set forth the reported designs on India of Zaman Shah king of Kabul, the grandson of Ahmad Shah Abdali terrible to Marathas. The British agent also offered the Peshwa a body of the Company's troops to protect his territory and revive the authority of his government. Bajirav had not

long before asked for the help of British troops and his offer had been refused. He could explain this sudden change in the view of the English only by an understanding with Nana, and his suspicion was confirmed when the English agent spoke strongly in favour of Nana's restoration.

Nana Minister, 1798.

As Nana was the object of Bajirav's strongest hate and fear the wish to prevent an understanding between Nana and the English overcame all other considerations. Sindia was ready to leave for North India but Bajirav at a private meeting persuaded him to *stay to prevent* Nana from bringing English troops into Poona. While these private negotiations with Sindia were on foot Bajirav was secretly praying Nana who was then in Sindia's camp, to return to Poona and take his post as minister. Nana at first refused unless under a guarantee from the British Government that his person and property should be safe. To overcome Nana's fears Bajirav went alone at night to Nana's house, and using to the utmost his extraordinary powers of persuasion and deception induced (15th October 1798) the old man to resume his post as minister without any guarantee. Within a few months (1799) Nana was told by Yashvantrav Ghorpade and by Sindia that Bajirav was again trying to persuade Sindia to put him in confinement. Nana went to Bajirav, charged him with this treachery, and implored him to let him give up his post as minister and withdraw to private life. Bajirav denied any knowledge of the proposals, asked who had dared to make use of his name, and told Sindia to arrest them. Sindia arrested Bajirav's minister Govindrav, and Shivram another of Bajirav's agents, who bore the loss of their property and their liberty without impeaching their master's truthfulness. After this satisfaction Nana resumed his duties. As far as possible Nana avoided public business. But for some months affairs had been in progress which no one at Poona but Nana could prevent from seriously affecting the power of the Peshwa. On the first of September 1798 a new treaty was concluded between Nizam Ali and the English under which Nizam Ali agreed to disband his French troops and replace them with English troops, and under which the English undertook to mediate between the Nizam and the Peshwa and to do their best to bring the Peshwa to a friendly settlement. [Grant Duff's Marathas, 542.] The Marathas viewed this treaty with much jealousy and the British agent urged the Peshwa to conclude a similar treaty. He evaded the subject by an assurance that he would faithfully execute the conditions of existing engagements, and, in the event of a war with Tipu, promised to afford his aid. In these replies Bajirav followed Nana's advice Nana pressed him, after giving these promises, to take care that his promises were

fulfilled; any instance of bad faith would add greatly to the power of the English in their future dealings with the Marathas. In this matter Bajirav followed his own inclination. Though, with the help of Parashuram Bhau, Nana arranged that as in 1790 a Maratha contingent should be ready, in 1799, when the fourth Mysur war broke out, the English instead of Maratha support found that Tipu's envoys were publicly received in Poona, and that Tipu's agent had paid Bajirav £130,000 (Rs. 13 *lakhs*). The Governor General noticed the conduct of the court of Poona by countermanding the detachment which was in readiness to act with Parashuram Bhau, an action which Nana Fadnavis who did not know that Bajirav had received the £130,000 (Rs. 13 *lakhs*) could not understand.

When he heard that (11th May 1799) Seringapatam had fallen, that Tipu was slain, and that his power was at an end, Bajirav affected the utmost joy, tried to persuade Colonel Palmer that the backwardness of the Maratha contingent was due to Nana, and sent urgent orders to the governor of the Maratha Karnatak to advance into Tipu's country. Sindia also, while secretly striving to encourage resistance among Tipu's partisans, sent abundant congratulations to Colonel Palmer. Though the Peshwa had failed in his promise of help, in the hope of making him agree to a treaty like the treaty he had concluded with the Nizam, the Governor General set apart a portion of Tipu's conquered country for the Marathas. This tract of territory, which included the greater part of the Sunda lands now in North Kanara, yielding an estimated revenue of £26,300 (Es. 2,63,000), was rejected by the Peshwa. The Poona Government regretted that the disorder in the Maratha country had prevented them from sending the promised contingent to act against Tipu; in the case of the French landing in India the Peshwa undertook to join with the English in fighting them, at the same time the Peshwa would not agree to exclude Frenchmen from his service.

[The Widows, War, 1799.](#)

He refused the Company's offered mediation in his existing disputes with the Nizam, and treated as absurd the proposal to include Raghuji Bhonsla of Nagpur as a principal in the intended alliance. Sindia's affairs continued in confusion. After Ghatge's attack on Amritrav's camp in 1798 the ladies sought refuge with the Kolhapur chief. In Kolhapur they were joined by the leading Shenvi Brahmans in Sindia's service. Numbers of horsemen flocked to their standard, and they marched north (February 1799) burning all Sindia's villages between the Krishna and the Godavari. Sindia's horse fled before them, and,

though they gave way to his regular battalions, as soon as the regular troops turned to go back to Poona the ladies' troops followed them and continued their work of ruin. The country swarmed with horsemen, and though plunder was not indiscriminate the devastation was great. [Grant Duffs Marathas, 545.] In addition to his troubles with the widows Sindia's power was threatened by a revolt in North India and by the escape and rapid success of Yashvantrav Holkar in Malwa. In these straits Sindia's headmen advised him to set Baloba Tatya free and appoint him minister. Baloba promptly made a settlement with the ladies. But after all was arranged the murder of one of their followers enraged the ladies and they withdrew and again marched through the country plundering. [Grant Duffs Marathas, 546.] In August 1799, with the approval of their chiefs, Baloba and Nana deliberated on measures to counteract the close alliance between the Nizam and the English. For some time Satara and Kolhapur had fallen into complete disorder and Parashuram Bhau the Peshwa's commander had lately been killed. A combined force of the Peshwa and Sindia marched towards Kolhapur, defeated the chief, forced him to seek safety in Panhala besieged Kolhapur, and had nearly taken it when (1800) events at Poona forced a prompt settlement and saved the existence or at least the independence of the Kolhapur state.

[Nana Dies, 1800.](#)

Nana's health, which had long been declining, failed rapidly in the beginning of 1800, and he died at Poona on the 13th of March. This event sealed the ruin of the Peshwa's government. In figure Nana was tall and thin, dark in complexion and grave in manners, with a quick searching and intelligent expression. In private life he was truthful, frugal, and charitable a most orderly and painstaking worker. He respected the sincerity and vigour of the English, but, as political enemies, looked on them with the keenest jealousy and alarm. As a politician his early life was disfigured by timidity and ambition. During his last years he acted with the courage and sincerity of a patriot, regardless of consequences to himself, counselling Bajirav to do what he believed was for the good of the state. In his early life he devoted his energies to maintain the improved civil management which had been established by Madhavrav Ballal (1761-1772). In later years home intrigues and foreign troubles so filled his time and his thoughts that in practice almost all check on abuses disappeared. Even in Poona city so slack was the control that Ghasiram the head of the city police was able without check to commit a series of murders, and at last, when his guilt was proved, was punished not by the law but by a rising

of the townsmen who stoned him to death. With Nana passed away all that was wise and moderate in the Peshwa's government.

Nana died leaving a young widow and no children. The desire to seize his wealth, which in spite of all he had latterly been forced to part with was said to be still immense, soon set Sindia and Bajirav quarrelling. When the insurrection in North India was crushed Sindia, under the influence of Ghatge determined to destroy Baloba. He was seized and thrown into Ahmadnagar, death freeing him from the tortures which Ghatge had planned for him and which he carried out in the case of two of Baloba's supporters blowing one from a gun and mangling the other by tying round him and setting fire to a belt of rockets. While Sindia vented his hate on the Shenvi Brahmans, Bajirav gratified his revenge by seizing and throwing into confinement the former supporters of Nana and of Parashuram Bhau and other Patvardhans. Sindia was now all-powerful at Poona. He had Bajirav so entirely in his hands, that he for some time kept a guard round Bajirav's palace lest he should attempt to escape. Before the close of 1800, the rapid success of Yashvantrav Holkar, who had overrun almost the whole of Malwa compelled Sindia to leave Poona and march north. Before he left Poona he forced Bajirav to give him bills worth £470,000 (Rs. 47 lakhs). Several bloody battles were fought between Sindia and Holkar in Malwa. The infamous Ghatge joined Sindia's army and gained complete victory over Holkar. Yashvantrav, though nearly ruined, by a skilful march arrived unexpectedly in the neighbourhood of Poona. When Sindia left Poona, instead of trying to win the respect of his people, Bajirav gave his attention to distressing and pillaging all who had opposed either himself or his father. One of the first who suffered was Madhavrav Rastia, whom he invited to visit him, seized, and hurried to prison.

[Vithoji Holkar Killed, 1801.](#)

This act, followed by others like it, caused general discontent. Lawlessness spread and the Deccan was filled with bands of plundering horsemen. Among the prisoners taken in one affray was Vithoji the brother of Yashvantrav Holkar. According to Maratha practice the punishment to prisoners taken in a plundering raid was not always death. Something short of death might have sufficed in the case of a son of Tukoji Holkar. But Tukoji Holkar had been Nana's friend and the Holkars were Sindia's enemies. So to death Bajirav added disgrace and sat by as Vithoji was bound to an elephant's foot and dragged to death in the streets of Poona (April 1801). Bajirav's cruelty brought on him the hate of Vithoji's brother Yashvantrav, a hate which for years

haunted Bajirav's coward mind. Shortly after Vithoji's death, the news of Yashvantra's vow of vengeance and of his successes against Sindia's troops at Ujjain (June 1801) led Bajirav to address him in friendly terms as the heir of Tukoji Holkar. As Sindia was fully occupied with his fight against Holkar, who had more than once defeated his troops, Bajirav thought the opportunity suitable for seizing Sindia's officer Ghatge. Ghatge, whose plundering was causing much misery in the Deccan, came into Poona and in his demands for money insulted the Poona Court. Balaji Kunjar, Bajirav's favourite, asked him to his house to receive some of the money he demanded. Ghatge came; but noticing from a signal given by Balaji Kunjar that treachery was intended, he forced his way out, leaped on his horse, escaped, and returned to Poona with a force threatening to sack the city.

[Yashvantrav Holkar's Invasion, 1802.](#)

The British Resident was called in to effect some settlement of Ghatge's claim, and Poona was saved further loss by an urgent message from Sindia requiring Ghatge in Malwa. Early in 1802 Shah Ahmad Khan, an officer detached by Yashvantrav Holkar, carried his ravages into the Peshwa's territories between the Godavari and Poona, and cut off almost to a man a force of 1500 horse under Narsing Khanderav the chief of Vinchur. The consternation at Poona caused Bajirav to renew negotiations with the English. He wished to have a force, but he objected to its presence in his territory, and he still refused to agree that the English should arbitrate between him and the Nizam. Yashvantrav Holkar himself soon moved towards Poona. The Peshwa did all in his power to stop him. Yashvantrav said, You cannot give me back Vithoji but set my nephew Khanderav free. Bajirav promised; but, instead of setting him free, had Khanderav thrown into prison at Asirgad. Meanwhile Sindia's army joined the Peshwa's, and together they prepared to stop Holkar at the Ali Bela pass in north Poona. Yashvantrav, knowing their strength passed east by Ahmadnagar, joined his general Fatesing Mane near Jejuri, marched down the Rajvari pass, and on the 23rd of October 1802 encamped between Loni and Hadapsar about five miles east of Poona.

About eight days before Yashvantrav's arrival the joint Sindia-Peshwa army had fallen back from Ali Bela and taken a position close to Poona near the present cantonment. The Peshwa ordered Yashvantrav to retire. He replied he was willing to obey; but that Sindia, not he, was the rebel and had refused to give up Yashvantrav's nephew Khanderav whom Bajirav had ordered him to set free.

[Yashvantrav Holkar's Victory, 1802.](#)

On the morning of the 25th of October the armies met, and, after a well contested fight, the battle ended in a complete victory for Yashvantrav which was chiefly due to his own energy and courage. Bajirav making sure of victory came out to see the battle but the firing frightened him and he turned southward. On learning the fate of the battle he fled to Sinhgad. From Sinhgad he sent an engagement to Colonel Close binding himself to subsidise six battalions of sepoys and to cede £250,000 (Rs. 25 *lakhs*) of yearly revenue for their support. He had already agreed to waive his objection to allow the troops to be stationed in his territory. For some days after his victory Yashvantrav showed great moderation at Poona. He placed guards to protect the city, treated Bajirav's dependents with kindness and made several attempts to persuade Bajirav to come back. Bajirav, after staying three days in Sinhgad, fled to Raygad in Kolaba, and from Raygad retired to the island of Suvarndurg off the north coast of Ratnagiri.

Bajirav leaves Poona.

From Suvarndurg, alarmed by news of the approach of one of Holkar's generals, he passed to Revdanda, and from Revdanda sailed in an English ship to Bassein which he reached on the 6th of December 1802. Meanwhile at Poona, when Holkar heard that Bajirav had fled from Sinhgad, he levied a contribution from the people of Poona. The contribution was arranged by two of Bajirav's officers and it was carried out in an orderly manner. When Yashvantrav found that Bajirav would not return he sent a body of troops to Amritrav with the offer of the Peshwaship. Amritrav at first refused; but, when Bajirav threw himself into the hands of the English, Amritrav held that he had abdicated and took his place. After much hesitation he was confirmed as Peshwa by the Satara chief.

[Poona Plundered, 1802.](#)

This settlement of affairs at Poona was followed by a plunder of the city as complete and as wickedly cruel as Sindia's plunder in 1798. Every person of substance was seized and tortured out of their property and several out of their life. The loss of property was unusually severe as some time before the battle of the 25th of October Bajirav had set guards to keep people from leaving Poona and Holkar took care that after the victory these guards were not withdrawn. These excesses were begun even before Colonel Close left Poona. Both Amritrav and Holkar were anxious to keep Colonel Close in Poona.

They wished him to mediate in their differences with Sindia and the Peshwa, and his presence seemed to show that the British Government approved of their usurpation of power. Finding that no persuasion could alter Colonel Close's purpose he was allowed to leave on the 20th of November 1802.

Treaty of Bassein, 31st December 1802.

On the 31st of December 1802, at Bassein in the North Konkan, Bajirav agreed to a treaty, under which the English undertook to restore Bajirav to power in Poona and to maintain permanently in the Peshwa's dominions a subsidiary force of 6000 regular infantry with the usual proportion of field artillery and European artillery-men. In return for these troops the Peshwa agreed that district yielding a yearly revenue of £260,000 (Rs. 26 *lakhs*) should be assigned to the English; that he would keep a force of 3000 infantry and 5000 horse; that he would entertain no European of any nation hostile to the English; and that he would have no dealings with any power without consulting the British Government. The treaty of Bassein made the English sovereign in the Deccan; Bajirav bought safety at the cost of independence. In March 1803 to re-establish Bajirav at Poona the subsidiary force at Haidarabad under Colonel Stevenson took a position at Purinda near the Peshwa's eastern frontier. General Wellesley was detached from the main army of Madras which was assembled in the north of Maisur, and, with 8000 infantry and 1700 cavalry, was directed to march towards Poona to co-operate with Colonel Stevenson. General Wellesley left Harihar in Maisur on the 9th of March and crossed the Tungbhadra on the 12th. On the banks of the Krishna he was joined by the Patvardhan and other Maratha and Brahman Karnatak estateholders, all of whom, especially the Patvardhans, showed much friendliness to the British. On the 19th of April as he drew near Poona, General Wellesley was warned that Bajirav's brother Amrit rav was likely to burn the city. To prevent this misfortune General Wellesley pressed on with the cavalry of his division, and the Maratha troops under Apa Saheb Gokhla and others of the Peshwa's officers, using such speed, that, though kept six hours in the Little Bor pass, he reached Poona on the 20th of April after a march of sixty miles in thirty-two hours. [General Wellesley's route was by Miraj and Pandharpur to Baramati. He camped at Baramati on the 18th of April and at Moreshvar on the 19th. At Moreshvar he heard that Amritrav meant to burn Poona. After halting for a few hours at Moreshvar he moved with one native battalion and the whole of his cavalry. Though detained six hours in the Bor pass he entered Poona at two on the 20th of April, a march of sixty miles in thirty-two hours.

The infantry joined him on the 22nd. Col. Close in Wellington's Despatches, I. 166. During this war General Wellesley made one greater march than this. When engaged on the Godavari he started on the morning of the 4th of February 1804 with the British cavalry, the 74th Regiment, the first battalion of the 8th Regiment, 600 men belonging to other native corps, and the Maisur and Maratha cavalry. After a march of twenty miles on the 4th word was brought that the enemy were twenty-four miles off. He marched again on the night of the 4th, but the road was bad and they did not reach the place named till nine next morning. The infantry arrived at the point of attack along with the cavalry. The enemy had heard of their advance, were in retreat, but still in sight. They were pursued from height to height till the whole body was scattered. All was over by twelve on the 5th. The troops had marched sixty miles in thirty hours. General Wellesley thought this was quicker even than Marathas. He often spoke of it as the greatest march he ever made. Wellington's Despatches, II, 97, 98, 100. 101; III. 448.] In the country south of the Bhima straggling bodies of Holkar's plunderers were seen, who, on being ordered to desist, had retired. Before General Wellesley reached Poona all hostile troops had left. Holkar had gone to Chandor in Nasik some days before, and Amritrav had started that morning for Sangamner in Ahmadnagar. [Amritrav fought and defeated the Raja Bahadur of Nasik. He afterwards entered into an agreement with General Wellesley, and finally retired to Benares on yearly pension of £80,000 (Rs. 8 lakhs), Grant Duff's Marathas, 569.]

Bajirav Restored.

On the 13th of May, escorted from Panvel by 2300 infantry of whom 1200 were Europeans, Bajirav entered Poona, was installed as Peshwa, and received presents from the leading men of the state.

Condition, 1803.

In consequence of the ravages from which the country had for some years suffered, and especially from the ruin caused by Holkar and his Pendharis, 1803 was a year of scarcity in the Deccan, and, in consequence of the complete failure of rain in September and October 1803, the last months of 1803 and the first half of 1804 was a time of deadly famine. Meanwhile, secretly encouraged by Bajirav, Sindia and Raghuji Bhonsla were preparing to contest British supremacy in the Deccan. The capture of Ahmadnagar fort on the 12th of August 1803 and the famous victory of Assaye, 160 miles north-east of Poona, on the 23rd of September made the British supreme in the Deccan. [The

Hon. Mountstuart Elphinstone, who was on General Wellesley's staff at the head of one of the branches of the Intelligence Department and took part in all the engagements in this war, describes the Maratha camp as an assemblage of every sort of covering of every shape and colour, spreading for miles on all sides over hill and dale mixed with tents, flags, trees, and buildings (Colebrooke's Elphinstone, I, 175; II. 137). When the Marathas marched, a sea of horse foot and dragoons poured over the country fifteen miles long by two or three broad. Here and there were a few horse with a flag and a drum, mixed with a loose and straggling mass of camels, elephants, bullocks, dancing girls, beggars and buffaloes, troops and followers, lancemen and matchlockmen, traders, and agents or *mutسادis* (Ditto). Of his life in the English camp Mr. Elphinstone gives the following details: Tents are struck before five and early breakfast is taken about six. Then we mount and ride coursing a mile or two out on the flank, reach the camping ground between ten and twelve, and sit if the chairs have come or lie on the ground. When the tents are pitched we move into them and talk till breakfast. After breakfast we work read talk or rest in the tents till dark. Then comes some exercise, dressing for dinner, dinner, and talk till nine. Colebrooke's Elphinstone, I. 84-85.] For some time the country round Poona continued disturbed by insurgents and freebooters. When they were crushed, until Bajirav stirred war in 1816, the presence of British troops at Poona, Sirur, and Ahmadnagar preserved peace. When it passed under British sovereignty Poona, like most of the Deccan, was little more than a desert. In January 1803, writing from information received at Maisur, General Wellesley described the country round Poona as entirely exhausted. [Wellington's Supplementary Despatches, III. 531, 559.] It was in great confusion. The heads of villages and districts no longer obeyed the chiefs who had governed them; each had assumed supreme authority in his own district, and they were carrying on a petty but destructive war against each other. In April 1803, after his march from Miraj through Baramati and the Little Bor pass, General Wellesley wrote: [Wellington's Despatches I. 143.] In the country to the south-east of Poona Holkar could not possibly maintain an army. They have not left a stick standing within 150 miles of Poona. They have eaten the forage and grain, have pulled down houses, and have used the material as firewood. The people have fled with their cattle. Between Miraj and Poona, except in one village, not a human being had been seen. General Wellesley's rapid march saved Poona from burning. The people showed the most lively gratitude and great numbers returned to their homes. [Wellington's Despatches, I. 145.] The Poona market was well supplied with grain, [Wellington's Despatches I. 147.] but forage was so scarce that General Wellesley determined to march west

to the hills. He went no further than Punavle, about fifteen miles to the west of the city because he found that as soon as he moved all the people of property left Poona. [Wellington's Despatches, I. 555;III. 91.] From Punavle he sent his cattle farther up the valley to graze.[Wellington's Despatches, III. 91.] In the country to the north-east of Poona (18th June 1803) the people were in the villages and they had grain in underground pits, but there was no government, or indeed anything but thieving. [Wellington's Despatches, in. 186,188.] The country was very poor. From the Peshwa to the lowest horse man no one had a shilling. [Wellington's Despatches, III. 190.] The entire Maratha territory was unsettled and in ruins. Owing to Holkar's plunder and extortion whole districts were unpeopled and the towns destroyed. As the estateholders for several years had received no rents they were forced to allow their troops to plunder their own territories. Every man was a plunderer and a thief; no man who could seize or steal would till. [Wellington's Despatches, I. 240.] The Peshwa's resources were small and the land about Poona was waste. [Wellington's Despatches, I.332.] In 1803 the rainfall in June July and early August was sufficient, apparently abundant. [Wellington's Despatches, I. 288 and other passages.] But the late rains of September and October completely failed; except in the west the bulk of the early harvest must have perished and the late crops were probably never sown. The failure of rain was specially severe in the central and eastern parts of Poona and Ahmadnagar. By the eleventh of October there was every reason to expect a great scarcity of grain if not a famine. The troops in Poona could be supplied only from Bombay and Bombay only from Kanara. In Bombay the fear of famine was so strong that Governor Duncan kept for the use of the settlement grain which was meant to have gone to the army in the Deccan. [Wellington's Despatches, I. 441-447.] Even in the hilly west of Poona, which depends little on the late rains, early in October, famine was raging. [Travels, II. 112-169. Lord Valentia noticed that the Indrayani or Bor pass valley between Karla and Talegaon was strewn with agates, onyx, and carnelian. When he was Poona he made a large collection of agates which were to be had in profusion. Ditto, II, 113.]The English traveller Lord Valentia reached Khandala from Bombay on the 9th of October. Close to the pond vultures and dogs were feeding on about a hundred dead bodies. Famine was in every face several houses were empty, and the last victims had never been removed from the places where they perished. This terrible suffering seems not to have been due to a local failure of rain as the hill were green to the top, there were many paddy fields, and the harvest was nearly ripe. Karla was the first stage from Bombay where Lord Valentia saw no famine corpses. The country near Talegaon was level and without tillage or trees, and a little

beyond Chinchvad were signs of Holkar's devastations: the village of Aundh on the Mutha was nearly in ruins. The streets of Poona showed no great signs of suffering, but the sight of dead bodies on the river banks in every stage of decay was distressing. Colonel Close the resident distributed charity chiefly from a fund of £4000 (Rs. 40,000) which Lady Mackintosh had collected in Bombay. He at first gave the people boiled rice. But the sight of the food drove the people nearly frantic and numbers lost their share. Money (2 *as.*) was accordingly given instead of grain. About 5000 people were relieved every day. The Peshwa confined his charity to the relief of Brahmans of whom he fed great numbers. [Lord Valentia was present at the Dasara on the 13th of October. There was a great review in which the British troops took part. The Peshwa, on an elephant, passed along the line to a spot where the branch of a tree had been stuck in the ground. He got off the elephant and performed the ceremonies. He plucked some ears of corn, a salute was fired, and he went off in a looking-glass elephant-car. Formerly whole fields of corn used to be wasted, the Peshwa leading the wasters., Travels, II. 123-124.]

[Condition, 1803-1804.](#)

In December 1803 General Wellesley wrote: [Wellington's Despatches, I. 547.] The Peshwa has not in his service a common writer or civil officer to whom he can trust the management of a single district. His territories are all either in the hands of his enemies or are without managers on his part. All the persons capable of arranging his state are either in the service of his enemies or are imprisoned and oppressed by himself. Rich districts are going to ruin because all the persons fit to manage them are in prison or oppressed by the Peshwa. Unless the Peshwa sets these people free and employs them in settling the country the Poona state will never revive. In January 1804 General Wellesley described the Deccan as a chaos. If a militia was not raised and government put in some regular train all must fall to pieces. [Wellington's Despatches, II. 16,17.] The Peshwa's government was only a name. The country along the Bhima five miles north of Poona was unsettled, a dreary waste overrun with thieves. The Peshwa was unfit to manage the government himself. He gave no trust or power to any one and had no person about him to conduct the common business of the country. [Wellington's Despatches, II 42.] Towards the end of February (23rd) General Wellesley wrote [Wellington's Despatches, II. 125, 127.] The Peshwa does nothing to improve his government. His only system of government is that of a robber. He does not choose to keep up an army and his territories are overrun by armed men who are ready to enlist with any one who will lead them to

plunder. Except the British troops there is no power in the country to support the government and protect the industrious classes of the people. Conceive a country in every village of which twenty to thirty horse-men have been dismissed from the service of the state and have no means of living except by plunder. There is no law, no civil government, no army to keep the plunderers in order; no revenue can be collected; no inhabitant will or can remain to cultivate unless he is protected by an armed force stationed in his village. Habits of industry are out of the question; men must plunder or starve. The state of the police was also lamentable. The Peshwa's ministers and favourites were the patrons and the sharers of the profits gained by the thieves in their plunder of those whose necessities forced them to travel through the country. [Wellington's Despatches, II, 128,129, 187.] In March, General Wellesley wrote: Bajirav's great object is to gain money to meet the expense of the pleasures of his court. He makes no attempt to organize the force, which, under the treaty of Bassein, he is bound to support, and is anxious to employ English troops in putting down robber and helping his revenue-collectors. General Wellesley refused to have anything to do with the police of the country or the little dirty *amildari* exactions. [Wellington' Despatches, II.85,147,187.] At the end of April (23rd) the accounts of the state of the Deccan were very distressing. Even in the Nizam's country, which was better off than the west, the sufferings were extreme. It was scarcely possible to get forage or grain; a detachment was some days without food and lost 100 horses in one day. At Poona the British cavalry horses had for some time been fed on Bombay rice. Rice was not wholesome food for horses, but it was the only grain that could be got. General Wellesley doubted if he could move his troops from Poona. [Wellington' Despatches, II. 214.] In May matters were worse. In Poona all but the fighting men suffered much distress. By great exertions grain was procured but it sold for five pounds (2½ *shers*) the rupee. Forage was very scarce except near the Bor pass, and even there it was dear and bad. [Wellington's Despatches, II. 224-225.] In the beginning of June, so many cattle died and General Wellesley received such dreadful accounts of the want of forage that he determined to stay in Poona as a measure of prudence if not of necessity. [Wellington' Despatches, II. 288.]

1805.

[Mackintosh's Life, I. 274-288.] Towards the end of December 1805 Sir James Mackintosh, the Recorder or Chief Justice of Bombay (1804 - 1811), came from Bombay to visit Colonel Close the Resident at Poona. He was pleased with Chinchvad and its sacred family, in one of

whom the god Ganesh dwelt, and whose sacredness had saved the village from ruin in Holkar's ravages in 1802. Just before reaching Poona, Mackintosh was interested to see a thousand Maratha horse, a fair sample of the terrible cavalry who had wasted and won almost the whole of India. Their air was martial even fierce and next to the Bombay watermen, probably the Koli fishermen, they were more robust than any Indians Mackintosh had seen. They had no uniform and their clothes and arms were most neglected. Their horses varied; some were very wild and some very mean, none were showy. The English in Poona moved with considerable state. In front went two scarlet-coated couriers or *harkaras* on camels, then an escort of sepoy, then several scarlet mace-bearers, then some of the party on horses and the rest on elephants. The Residency at the Sangam, which Mackintosh describes as a set of bungalows spread over the enclosure, was fitted conveniently and luxuriously. Poona city had its principal streets paved with stone and was reckoned one of the best built native towns in India. The Peshwa's residence, the Saturday Palace or *Shanvar Vada*, from its size well deserved the name of palace. A gateway opened into a large rather handsome square surrounded by buildings, whose walls were painted with scenes from Hindu mythology. The staircase at one corner was steep and narrow, an odd contrast to the handsome square. The audience hall was a long gallery supported by two rows of massive wooden pillars. The hall was carpeted and at one end on a white cloth were three pillows, the Peshwa's state seat. Bajirav, who was then about thirty-four, was a fair man, very handsome, with a perfect gentlemanlike air and manner, simply and neatly dressed in white muslin. He had the easy bearing of one who had a long familiarity with a superior station. Though more elegant than dignified he was not effeminate. Of the three chiefs of nations to whom Mackintosh had been presented, George III., Napoleon, and Bajirav, Mackintosh preferred the Brahman. [Mr. Elphinstone on first meeting Bajirav (April, 1802) found him a handsome unaffected person, with a good and dignified face though there was some coarseness about the mouth. Colebrooke's Elphinstone, I. 46.]

Condition, 1805.

The etiquette of Bajirav's court was a whisper. When they moved to Bajirav's own room, an unfurnished bare-walled closet with a white floor cloth and some small pillows, Bajirav spoke warmly of his happiness under the British alliance. Mackintosh's assurance that the English would always protect his security and comfort, brightened his face with apparently genuine delight. Mackintosh thought Bajirav

feelings natural, perhaps reasonable, and obviously unaffected. He had lost independence but had gained rest for himself and his people, personal enjoyment and comfort, and outward dignity. An ambitious man might prefer the independence, a philosopher's choice might vary. Bajirav was neither a hero nor a sage; he was devoted to nothing but to women and to the gods. On leaving the palace a diamond crest was fastened in Mackintosh's hat, a diamond necklace was thrown round his neck, and several pieces of gold and silver cloth and fine muslin were laid before his feet. According to custom these presents were given up and sold on account of the Honourable East India Company.

In spite of the unfeigned obviously natural joy and thankfulness which carried conviction to such shrewd and practised observers as Lord Valentia, Sir James Mackintosh, and Colonel Close, since his restoration to power, Bajirav had been steadily disloyal to the English. [Colebrooke's *Elphinstone*, I 291. Lord Valentia, who had three interviews with Bajirav in October 1803, was satisfied that the Peshwa highly valued the English alliance and was sincerely delighted when he heard the news that Holkar's fort of Chandor in Nasik had fallen to the English army (*Travels*, II. 130). Colonel Close, according to Lord Valentia, had no doubt that the Peshwa was sincere in his gratitude to the English. He had never seen the Peshwa so evidently pleased or heard him more unequivocally declare his sentiments. The way in which the Peshwa and his brother Chimnaji lived together without jealousy proved how excellent was the Peshwa's *heart* (*Ditto*, 136). With Lord Valentia's, Sir James Mackintosh's, and Colonel Close's high opinion of Bajirav's evident sincerity it is interesting to compare the Duke of Wellington's opinion, who, and Mr. Elphinstone under his influence, were the only Englishmen who resisted the fascination of Bajirav's manner. The Duke of Walling ton, says Grant Duff (*Marathas*, 572 foot), had (1803) remarkably correct view of Maratha character; his opinion of Bajirav's future conduct was prophetic. In MAY 1803, when Bajirav was established at Poona, Colonel Close (Wellington's *Despatches*, I. 170) described the Peshwa's disposition as wholly satisfactory. The Duke at the same time (14th May 1803) wrote (*Ditto*, 164): The Peshwa showed much quickness and ability: he appeared particularly anxious to perform the stipulations of the treaty at the smallest possible expense to himself. Early in June, when he had to leave Poona to act against Sindia and the Berar chief without any help from Bajirav, the Duke (4th June; *Ditto*, I. 179) felt that the Peshwa had broken the treaty by not furnishing an army and had broken his word to the Duke by not settling with the southern chiefs. Still he believed the Peshwa was not treacherous. On the 8th of June (*Ditto*,

III. 166) he began to doubt if the Peshwa was only incapable. Stubborn facts proved that something besides the Peshwa's incapacity for business prevented a Maratha army helping the English. On the 19th of June (Ditto, I. 186-188), when he could get no supplies and was worse off than in an enemy's country, he could no longer help feeling that the Peshwa was thwarting him. On the 20th of June he believed the Peshwa disliked the English alliance. He had found out that the Peshwa had daily communications with Sindia and Holkar of which the Resident at Poona knew nothing (Ditto, III. 191). On the 23rd of June (Ditto, III. 201) he describes Bajirav as unwilling as well as incapable, a prince the only known principle of whose character is insincerity. On the 24th of June (Ditto, I. 194) the Duke was satisfied that the Peshwa was not true to the English cause and was Preventing grain coming to his army. On the 28th of September he wrote (Ditto, I.410): The Peshwa is sincere in his intention to keep to our alliance, but there is crookedness in his policy. He has no ministers; he is everything himself and everything is little. In January 1804 he wrote (Ditto, II. 87-88): The Peshwa's only principles of government are revenge and jealousy of me. He will begin again, or latter will continue for I believe he has never stopped, his intrigues with Sindia. I certainly hare a bad opinion of him; he has no public feeling and his private disposition is terrible. I have no positive proof that he has been treacherous, but I have a strong suspicion of it, and I know that since he has signed the treaty of Bassein he has done no one thing that was desired. In February 1804 (Ditto, III. 468), when he found that Bajirav had Frenchmen hid for a month In Poona, he wrote: Is not this shocking? What is to be dene with the fellow? This is our good and faithful ally ! And again on the 7th of March (Ditto, II. 138): The Peshwa is callous to everything except money and revenge. If he is sincere how can we explain his never telling the Resident that the Frenchmen had come to Poona. According to Mr. Elphinstone, who, after studying his character for several years (November 1815): Bajirav's ruling passions were fear and revenge. His great art was dissimulation. He was habitually insincere, joining a talent for insinuation to a natural love of artifice and intrigue. His want of courage and his love of ease thwarted his eagerness for power and his fondness for deference. He was proud and haughty but to serve his ends stooped to any meanness. Changeable humours hid fixed designs. He was able, humane when neither afraid nor vengeful, frugal, courteous, and dignified. Half his life was spent in fasts, prayers, and pilgrimages, and a large share of his revenue on magical practices. He was most strict to guard against ceremonial impurity, and almost daily spends boon in disgusting debauchery in large assemblies of women of rank. (Colebrooke's Elphinstone, I. 287-288.)]

He wrote (1803) to the chiefs who were in league against the English explaining that his wretched dependence on the enemy was due to the treachery of the southern estate-holders; he failed to give General Wellesley any help in his campaign against Sindia (1803), and did his best to stop his supplies; and in conducting his affairs with the English Resident, he employed Sadashiv Mankeshvar, whose chief qualification for the post was his open enmity to the English. That the English recommended it was enough to secure the failure of any plan for the good of his government. During the years between 1805 and 1811, under Colonel Close and for a short time after under Mr. Russel, affairs went smoothly at Poona. Bajirav for a time seems to have honestly considered the English alliance a piece of good fortune and the country greatly improved. [Colebrooke's Elphinstone, I. 246.]

Condition, 1808.

On the 10th of November 1808, Sir James Mackintosh paid a second visit to the Deccan. He found Karla a miserable village of fifteen or twenty huts and about fifty people. It paid £100 (Rs. 1000) a year to a man of rank at Poona, who had lately threatened to raise the rent to £120 (Rs. 1200), and the people had threatened to leave. Mackintosh thought the state of the people wretched. They felt they were governed only when they paid taxes, in every other respect they were left to themselves, without police or justice, except such as the village system supplied. It was hard to say why taxes were paid, unless to bribe the sovereign to abstain from murder and robbery. At Talegaon the wood entirely ceased. The land was bare and little cultivated; there were no villages; the road was lonely; and the whole country seemed empty. At Punavle were the ruins of a large castle or *vada* which had been destroyed by Holkar in 1802. It had both square and round towers and was not unlike an English feudal castle of the rudest form. Sir James was met by Colonel Close on the morning of the 12th of November and taken on an elephant to the Sangam. He describes Colonel Close as without accomplishment or show, plain, cautious, and with a degree of mildness that formed a singular contrast with the firmness and even sternness which he had shown on trying occasions. He had a calm understanding, wholly employed in practice, united to a strength of nerve which qualified him equally, for a cautious or a vigorous policy. He was a very superior man who among common observers might easily have passed for a very common man. [Mr. Elphinstone (21st September 1812) describes Sir Barry Close as a man of a strong and hardy frame, a clear head, and vigorous understanding, fixed principles unshaken courage, and a contempt for pomp and pleasure. His entire devotion to the public service and his

extreme modesty and simplicity combined to form such, a character as one would expect to meet in ancient Rome rather than in our own age and nation. Colebrooke's Elphinstone, I.270.] According to Colonel Close's information the population of the city of Poona was about a hundred thousand. The police was entrusted to a military Brahman of the family of Gokhla who had a considerable establishment and his duty was either so easy or so skilfully performed, that, notwithstanding the frequent meeting of armed men, instances of disorder were rare. Gokhla punished all small offences. Great crimes were punished by the officers entrusted with the districts and in very serious cases by the government. Capital punishment was rare. Civil disputes were settled by arbitration under the sanction of the ministers. There was not a court of judicature, nor a judge in the whole Maratha dominions; nor were there any regular forms of trial. [Nothing seemed so strange to the Recorder as that so great a country could exist without a judge. Two circumstances diminished his wonder. The first was the power of the officers of villages or rather townships, who, throughout India, preserved a sort of republican constitution under despotic princes and retained their authority in the midst of the revolutions among their superiors. The second was the great power of the Brahmans and heads of castes who were a kind of natural arbitrators in all disputes, and who could punish offences by expulsion from caste, a penalty more terrible than any which the law could inflict. These two authorities, with the irregular jurisdiction of the executive officers, were sufficient to maintain tranquillity. Still the absence of regular forms of criminal justice had the usual effect in corrupting nations so unfortunate as to be destitute of that great school of morality. Sir James Mackintosh's Life, I. 460-1.] Mackintosh speaks less civilly of Bajirav than he spoke of him in 1805: The Peshwa has just come back from Pandharpur. He is a disgusting mixture of superstition and dissolute manners, a combination which was not unnatural among Hindus, who, in Mackintosh's opinion, had expunged purity of manners from their catalogue of virtues.

1811.

During the six years ending 1811 the bulk of the residency work was in the hands of a Parsi named Khusruji, a man of judgment and great address, who had been won over to the Peshwa's interests. In 1811 Mr. Russel was succeeded by the Honourable Mountstuart Elphinstone. Mr. Elphinstone had been at Poona in 1802 as Colonel Close's assistant, in 1803 he was on General Wellesley's staff in the war against Sindia and the chief of Berar, and between 1803 and 1807 he was Resident at the Berar chief's court at Nagpur. [Mr. Elphinstone's

plan of life at Poona was to ride ten to twenty miles in the morning, do club exercise, breakfast, apply to public business and private correspondence from about ten to two, lunch on a few sandwiches figs and a glass of water, rest half an hour, read and write, drive in the evening, take more club exercise, dine on a few potatoes and one or two glasses of claret and water, and read till sleep at eleven. Especially in the hot weather he suffered much from low spirits and bad health. Colebrooke's Elphinstone, I. 235.] Mr. Elphinstone was well versed in Maratha politics and Maratha state-craft, and did all business direct not through Khusruji. This change was most distasteful to Khusruji who succeeded in raising in the Peshwa's mind a dislike of Mr. Elphinstone. This dislike was to a great extent removed in 1812, when, as the Patvardhan and other southern estate holders refused to acknowledge the Peshwa's supremacy, Mr. Elphinstone assembled an army at Pandharpur, marched towards the Krishna, and forced the estate holders to abide by their original agreement with the Poona state. Bajirav was profuse in his acknowledgments to Mr. Elphinstone. In 1813, in connection with these troubles, he declared that he wished to have no more vassal horse. [The Peshwa had soon a fresh instance of the value of the British force whom he found it necessary to call in against Apa Desai, who, refused to comply with certain claims devolving on the Peshwa by the late settlement and to give up some territory belonging to the Raja of Kolhapur. The British authorities interposed, but Bajirav artfully contrived to induce Apa Desai to trust to his lenity, and resist the demands. By this insidious conduct the Desai was led to forfeit one-fourth of his estate to the Peshwa. Grant Duffs Marathas, 621, Compare Colebrooke's Elphinstone, I.253.] He was anxious to raise a brigade of native infantry, drill it by European officers, and pay it from his treasury. To this the Governor General readily agreed (1813), and, at Khusruji's suggestion, Captain John Ford, of the Madras establishment, who had been long attached to Colonel Close's escort, was appointed commandant of the brigade. Able officers from the line, chosen by Captain Ford, were also lent from the Bombay establishment to help to form and discipline the corps. Except a small proportion of Marathas the men were chiefly raised in the Company's provinces in Northern India. On entering their battalions they swore fidelity to the Peshwa, adding of their own accord the condition, so long as he continued in alliance with the British. The cantonment allotted for this brigade was at the village of Dapuri about four miles north-west of Poona. One brigade of British troops was stationed at Poona near Garpir, a spot originally chosen to guard the city; the rest of the subsidiary force were posted about half-way between Poona and Ahmadnagar, on the river Ghod near the village of Sirur. Some time before 1813 a quarrel, which seems to

have been stirred up by Bajirav, broke out between Khusruji the resident's agent and Sadashiv Mankeshvar one of Bajirav's ministers. Khusruji had received from the Peshwa the valuable post of *sarsubhedar* or governor of the Maratha Karnatak. Sadashiv Mankeshvar who coveted this appointment accused Khusruji of mismanagement, and Mr. Elphinstone told Khusruji that he must choose between his agency at the residency and his government. Khusruji chose the residency agency and his appointment as governor of the Karnatak was given to Trimbakji Denglia one of Bajirav's chief favourites. This Trimbakji, after wards the main cause of Bajirav's fall, was originally a spy who had risen to notice by the speed with which he brought Bajirav an answer from Poona when (1802) he was at Mahad in Kolaba in flight from Holkar. Trimbakji continued a most active useful and unscrupulous servant to Bajirav, supple in adopting his master's views and bold in carrying them out. He boasted that he was ready to kill a cow if his master told him. He was perhaps the only man who ever gained Bajirav's confidence, as he was too low to be feared too despicable to excite jealousy, and too servile to irritate by opposition. [Colebrooke's Elphinstone, II. 288, 293.] Bajirav's success against his southern estateholders led him to speak vaguely of enforcing his claims on the Nizam, Sindia, and the Gaikwar. At this time Bajirav apparently had no thought of acting against the British Government. It was Trimbakji's bitter hatred of Europeans which succeeded in flattering Bajirav into the belief, that, if he only steadily added to his army, he might in time be able to make himself independent of the English. Accordingly the Peshwa began systematically to strengthen his force, chiefly engaging Gosavi and Arab infantry. Mr. Elphinstone raised no objection. On the contrary he was anxious to see the Peshwa's force strengthened, so that they could more effectually resist the attacks of the Pendharies who were now causing great loss in many parts of the Deccan. [In 1816 (27th November) Pendharia were plundering within fifteen miles of Poona and driving the people into Poona. Colebrooke's Elphinstone, I 343, 346.] At this time Khusruji exercised an evil influence on the Peshwa by constantly enlarging on the great gains which the British Government had received from the treaty of Bassein. Mr. Elphinstone was aware of Khusruji's views, determined to remove him, and made a liberal provision for him in Gujarat. As he was leaving Poona Khusruji died of poison. Though a searching inquiry was made it remained doubtful whether Khusruji committed suicide, as he knew his corrupt practices would become public as soon as he left Poona, or whether he was poisoned by Trimbakji at Bajirav's suggestion because Khusruji knew too many of their secrets. In 1815 Trimbakji, who continued to rise in favour with Bajirav, was made agent in the affairs with the

British Government. Trimbakji studied his master's humours and gained entire ascendancy over his mind. His measures, though ignorant violent and treacherous, were vigorous. His punishments were at once lenient and severe Robbery and murder might be compensated by a fine; a failure in a revenue contract was an unpardonable offence. The Peshwa farmed his districts to the highest bidder. Those who failed in their contracts had to give up their whole property and that of their securities. If their whole property was insufficient they were thrown into hill-forts and treated with the greatest rigour. Bajirav's net revenue was about £1,200,000 (Rs. 120 *lakhs*) out of which he saved about £500,000 (Rs. 50 *lakhs*) a year. In 1816 he was believed to have collected £5,000,000 (Rs. 5 *krors*) of treasure. [Grant *Daff's Marathas*, 625. General Briggs says (Colebrooke's *Elphinstone*, I. 303): Out of a yearly revenue of a million and a half sterling Bajirav laid by half a million. In 1816-17 he must have had at his disposal upwards of eight millions of treasure in jewels and in specie.] Bajirav court was gay and licentious beyond that of any former Peshwa, a characteristic agreeable to most Poona Brahmans. His time was passed in the practice of gross debauchery and of religious rites. He claimed great holiness and was most careful to keep all religious rules and ceremonies. Apparently to lay the ghost of Narayanrav Peshwa, whom his parents had murdered and who seems to have haunted him, Bajirav planted several hundred thousand mango trees about Poona, gave largesses to Brahmans and religious establishments, and was particularly generous to Vithoba's temple at Pandharpur. [The suggestion offered in the text to explain the planting of the mango groves may seem to differ from the usual explanation that the mangoes were planted to atone for the crime and to gain purity *or punya*. The suggestion that the atonement and purity Bajirav sought was freedom from the haunting of a ghost or unclean spirit is based on the following considerations: The mango is one of the holiest, that is the most effective spirit-scarers, among Hindu trees. That the object of planting the mango groves was to keep Narayanrav's ghost at a distance is supported by the story told by Grant Duff (*Marathas*, 625) that one of Bajirav's religious advisers saw Narayanrav's ghost and that it ordered a dinner for 100,000 Brahmans, an entertainment which was at once provided. Two passages in Mackintosh's account of the Mahadev Kolis of Ahmadnagar (1836 *Trans. Bom. Geog. Soc.* I. 223 and 256) further support the view taken in the text. The Kolis at times pay divine honours to persons who have died a violent death particularly if they or their ancestors caused the death. They pay these honours to the spirit of the murdered man to win its favour and that the past may be forgotten. The second passage shows that the Maratha Brahmans in Bajirav's time held the same views as the Kolis

about ghost-haunting. In 1777 Balvantrav Bede, the brother-in-law of Nana Fadnavis, treacherously seized and killed five Koli outlaws at Junnar. After the execution of the Kolis Balvantrav became very unhappy. He lost all peace of mind. To regain his tranquillity he built a temple near Junnar, and, in it, as the object of worship, set five stones or *panch lings* representing the five Kolis whom he had executed, that is the ghosts of the five Kolis haunted Balvantrav and he set up these stones as houses for the ghosts that they might be pleased with the civility shown them, live in the stones, and give over troubling him. It was probably Narayanrav's ghost that so often took Bajirav to Pandharpur. It was also apparently to get rid of this same ghost that Raghunathrav passed through the holed stone in Malabar Point in Bombay whose guardian influence cleansed the passer through from sin, that is freed him from ghosts. Compare Moore's *Oriental Fragments*, 506.] He never listened to his people's complaints. If villagers tried to approach him, his attendants drove them off. The revenue-farmers had generally the superintendence of civil and criminal justice and these powers enabled them to increase their collections. The court of justice at Poona was so corrupt that a suitor without money or influence never won a case. In 1815 the Peshwa continued to send agents to Sindia and Bhonsla and for the first time sent agents to Holkar and the Pendharis. These agents were sent with the object of forming a league to prevent any aggression on the part of the British, or to take advantage of any reverse in the Nepal (1815) or other war which might weaken the British and give the leaguers the chance of shaking off their power. Bajirav had no definite plans. Still he had gone so far that his intrigues would have justified the English in depriving him of power. From time to time Bajirav spoke to Mr. Elphinstone of the necessity of settling his claims on the Nizam and on the Gaikwar. Mr. Elphinstone was at all times ready to arrange for an inquiry, but Bajirav always let the subject drop. At heart he had no wish to have his claims settled; if his claims were settled his chief opportunity of intriguing with the Nizam and the Gaikwar would cease. At last in 1815, as part of a scheme to establish his ascendancy over Gujarat, he again pressed an adjustment of his claims on the Gaikwar. The Governor General thought it advisable to let the two states settle their affairs by direct negotiation, and that the British Government should not arbitrate unless the states failed to agree. At an early stage in the discussion an agent of the Gaikwar named Gopalrav Mairal had been sent to Poona. The claims of the Gaikwar and the peshwa were very intricate, and, when Bajirav, adopting Trimbakji's policy determined for purposes of intrigue to keep open the discussion no progress was made. For the intrigues which Bajirav hoped to develop

out of these discussions Gopalrav Mairal, who was upright sensible and cautious, was unsuited.

[Gangadhar Shastri at Poona 1815.](#)

In 1814 the Peshwa asked that another agent should be sent both to adjust the accounts and to gain a renewal of the lease of the Peshwa's share of Gujarat. The *Gaikwar's* new agent was Gangadhar Shastri. Gangadhar Shastri had originally been in the employment of the Phadke family in Poona. He had gained a place at Baroda through Fatesing Gaikwar, had proved of the greatest service to Colonel Walker in settling the claims of the Gaikwar on his feudatory chiefs, and had recently been the leading man at Baroda. [Mr. Elphinstone (15th June 1814) describes Gangadhar Shastri as a person of great shrewdness and talent who keeps the whole state of Baroda in the highest order, and, at Poona, lavishes money and marshals his retinue in such style as to draw the attention of the whole place, Though a learned Sanskrit scholar he affects the Englishman, walks fast, talks fast, interrupts and contradicts, mixes English words with everything he says, and calls the Peshwa and his ministers old fools and dam rascal. Colebrooke's Elphinstone, I. 275.] So strong was the distrust of Bajirav and the dread of Trimbakji that the Gaikwar asked and obtained the formal guarantee of his minister's safety from the British Government. On a previous occasion in 1811, Bajirav had approved of Gangadhar Shastri's appointment. Since then he had heard from his supporters in Baroda that Gangadhar Shastri was a friend to the English. In 1814 when Gangadhar Shastri was again proposed as the Gaikwar's agent, Bajirav objected, stating that when he was a clerk under Phadke, the Shastri had once been insolent to him. As Bajirav had not raised this objection in 1811, Mr. Elphinstone refused to attach any weight to it. In 1815, as Gangadhar Shastri found that his negotiations with the Peshwa must end in nothing, with Mr. Elphinstone's approval, he determined to return to Baroda and leave the settlement to British arbitration. This determination produced a sudden change on Bajirav and Trimbakji. If these questions were left to Mr. Elphinstone all excuse for correspondence between the Peshwa and the Gaikwar would cease and intrigue against the English would be made most difficult and dangerous. At any cost Gangadhar Shastri must be won to their interests. Gangadhar Shastri's weak point was vanity. Trimbakji told him what an extremely high opinion Bajirav had formed of his talents from the ability with which he had supported the Gaikwar's interests. The Peshwa was most anxious to get Gangadhar Shastri into his service. He must not leave Poona at once. This was followed by marked friendliness on Bajirav's part, even by the offer of his sister-in-

law in marriage to Gangadhar Shastri's son. Bajirav also agreed to an adjustment of the Peshwa's claims on the Gaikwar which Gangadhar Shastri proposed. The marriage preparations were pushed on. But as no answer came from the Gaikwar to the proposed settlement Gangadhar Shastri began to fear that his master suspected that this offer of marriage had won him to the Peshwa's side. Gangadhar Shastri hesitated about the marriage and much to Bajirav's annoyance it was put off. He further enraged Bajirav by refusing to allow his wife to visit the Peshwa's palace because of the bauchery from which it was never free. Still Trimbakji continued more cordial and friendly than ever. In July (1815) Bajirav asked Gangadhar Shastri to go with him on a pilgrimage to Pandharpur. Contrary to Gopalrav Mairal's advice Gangadhar Shastri went. On the 14th of July Gangadhar Shastri dined with the Peshwa. In the evening Trimbakji asked him to Vithoba's temple where the Peshwa was.

Gangadhar Shastri Murdered, 1815.

Gangadhar Shastri went and found the Peshwa most gracious and pleasing. He left the temple in high spirits, and before he had gone 300 yards, was attacked and killed. The heinousness of this crime, the murder of a Brahman in holy Pandharpur, raised a strong feeling against the murderers. Gopalrav Mairal openly accused Trimbakji, and Mr. Elphinstone, after a long inquiry, proved that Trimbakji had hired the assassins. Bajirav was called on to give up Trimbakji to the British Government. He put Trimbakji under arrest but refused to surrender him. British troops were moved on Poona, Bajirav's heart failed him, and Trimbakji was surrendered on the 25th of September. Sitaram the Baroda minister, who was in the Peshwa's pay, had helped Trimbakji's plans for murdering Gangadhar Shastri. Between the time of Gangadhar Shastri's murder and Trimbakji's surrender Sitaram busied himself in raising troops. He was taken into custody by the Resident at Baroda much against the will of the regent Fatesing Gaikwar whose conduct showed that like Sitaram he had become a party to Bajirav's intrigues against the British. Trimbakji was confined in the Thana fort. In the evening of the 12th of October he escaped and reached a safe hiding place in the Ahmadnagar hills. [Grant Duff's Marathas, 632.]

[Bajirav's preparations for 1816.](#)

After the surrender of Trimbakji Bajirav's chief advisers were Sadashiv Bhau Mankeshvar, Moro Dikshit, and Chimnaji Narayan. The two last were Konkanasth Brahmans, who, like most of Bajirav's courtiers, had gained their prince's favour by their families' dishonour. The agent

between Bajirav and Mr. Elphinstone was Captain Ford the commandant of the Peshwa's regular brigade. Trimbakji's escape seemed to restore Bajirav's good humour and he continued on the most cordial terms with Mr. Elphinstone. He was now busier than ever organising a league against the English. With Sindia, Holkar, the Raja of Nagpur, and the Pendharis constant negotiations went on. He greatly added to the strength of his army and supplied Trimbakji with funds to raise the Bhils, Kolis, Ramoshis, and Mangs of Khandesh Nasik and Ahmadnagar. Other gangs were organised in different parts of Bajirav's territories, which, if they attracted Mr. Elphinstone's notice, were instructed to play the part of Pendharis or insurgents (1817). Mr. Elphinstone had exact knowledge of what was going on. He sent word to the minister that a large body of troops was assembled at Nataputa, a village south of the Nira and within fifty miles of Poona. Were these troops the Peshwa's or were they insurgents? The minister replied that the Peshwa had no troops in that part of the country, and that Bapu Gokhla's horse had been sent against the insurgents. When Gokhla's horse reached the Nira they camped among the insurgents and could hear nothing of them. [Grant Duff's Marathas, 632-633.] Still Mr. Elphinstone persisted that a large insurrection was on foot in that part of the country, and Bajirav asked him to take his own measures to suppress it. Colonel Smith, who commanded the Poona subsidiary force, marched to the Nira, the insurgents moved to Jat, Colonel Smith followed them, and they retired north through a little known pass in the Mahadev hills to join a second body of insurgents which had gathered in Khandesh under Trimbakji's relative Godaji Denglia. Before the arrival of the Nira insurgents Godaji's troops had been dispersed by Lieutenant Evan Davis with a body of the Nizam's horse. Bajirav could no longer deny there were insurgents. He ordered the chief of Vinchur in Nasik to act against them, and, soon after, forwarded a letter from the Vinchur chief, giving fictitious details of a defeat of the insurgents. Meanwhile Bajirav continued to levy both infantry and cavalry. Mr. Elphinstone warned him of the danger he was running and asked him to stop. Bajirav in reply assumed a peremptory tone, demanding whether Mr. Elphinstone meant war or peace. Mr. Elphinstone directed Colonel Smith to move towards Poona with the light division and told Bajirav that he had called Colonel Smith to his support. Affairs were urgent. The insurgents were making head in Khandesh; May was already begun; and Bajirav might retire to a hill fort and during the rains organize a general rising of all the Maratha powers. Disturbances in Katak prevented communication between Poona and Calcutta. But a private letter from the Governor General reached Mr. Elphinstone advising him to make the surrender of Trimbakji a preliminary to any arrangement he might come to with

Bajirav. Mr. Elphinstone determined to act without delay. At the Peshwa's desire he visited him and Bajirav's persuasiveness and the soundness of his arguments would have convinced any one to whom the facts were not known that he could not possibly be unfriendly to the English. While Bajirav's acts contradicted his words Mr. Elphinstone was not to be deceived. He warned Bajirav of the dangers he had brought on himself, and told him that unless Trimbakji was either given up or driven out of the Peshwa's territory, war with the English must follow. Several days passed without an answer from Bajirav. Then Mr. Elphinstone formally demanded the surrender of Trimbakji within a month and the immediate delivery of the three hill forts of Sinhgad and Purandhar in Poona and Raygad in Kolaba as a pledge that Trimbakji would be surrendered. Bajirav had an exaggerated idea of the importance of his friendship to the English. He believed Mr. Elphinstone would not go to extremities and he hoped he might tide over the few weeks that remained till the fighting season was past. On the 7th of May Mr. Elphinstone sent word, that, in case Bajirav did not agree to hand over the three forts in pledge of Trimbakji's surrender, Poona would be surrounded. At one o'clock in the morning of the 8th Bajirav sent a messenger in the hope that Mr. Elphinstone might be persuaded not to surround the city. The discussion lasted all night; day had dawned before the messenger told Mr. Elphinstone that Bajirav agreed to hand over the three forts. The troops were already moving round the city, and had completely surrounded it before Mr. Elphinstone reached the head of the line. As soon as Bajirav issued an order for the surrender of the forts the troops were withdrawn. The Peshwa, as if he at length had resolved to give up his favourite, issued a proclamation offering £20,000 (Rs. 2 *lakha*) and a village worth £100 (Rs. 1000) a year, to any one who would bring in Trimbakji dead or alive. He seized some of Trimbakji's adherents and sequestered the property of others who were concerned in the insurrection. Though these proceedings deceived neither his own subjects nor Mr. Elphinstone, they were taken as the preliminary concessions without which the English could entertain no proposals for the future relations between the two states. Two days later (10th May 1817) Mr. Elphinstone received instructions from the Governor General, the Marquis of Hastings, which were framed with the object of preventing Bajirav again organising or taking part in any combination against the English.

[Treaty of Poona 13th June 1817.](#)

Under these instructions Mr. Elphinstone drew up the treaty of Poona which was signed by Bajirav on the 13th of June 1817. In this treaty

Bajirav admitted that Trimbakji . murdered Gangadhar Shastri; he agreed to have no correspondence with any foreign power that is with any other state; he renounced all rights to lands beyond the Narbada on the north and the Tungbhadra on the south; he agreed to receive a yearly payment of £40,000 (Rs. 4 *lakhs*) as a settlement of all his claims on the Gaikwar; to cede to the English the fort of Ahmadnagar; and instead of the contingent of 5000 horse and 3000 foot which he furnished under the treaty of Bassein to cede to the English territory yielding a yearly revenue of £340,000 (Rs. 34 *lakhs*). [This territory included Dharwar and other parts of the Karnatak, the North Konkan, and the Peshwa's revenue in Gujarat. Grant Duff's Marathas, 685] Bajirav disbanded a number of his horse, but it was found that each self-horsed trooper had received eight months' pay and had promised to attend if summoned and to bring friends. The Peshwa's regular battalions were transferred as part of the force which the English were to keep up in return for the fresh grant of territory. Only one battalion under Captain Ford was kept in the Peshwa's pay, and in their stead, the English raised a new corps. In July 1817, when the arrangements under the treaty of Poona were adjusted Bajirav left Poona on his yearly pilgrimage to Pandharpur.

At this time (1816- 1818), under the Marquis of Hastings (1814-1823), the whole power of the British in India was set in motion to crush the Pendharies, a horde of robbers, who, under the patronage of Sindia, Holkar, and the Peshwa, and under the shadow of the weak policy which had paralysed the English since the close of the Marquis of Wellesley's government (1805), had risen to dangerous strength and spread unrest and ruin over Malwa, Central India, and much of the British possessions. During 1816 and the early months of 1817 the Marquis of Hastings determined, besides suppressing the Pendharies whose head-quarters were in Malwa and Central India, to enter into fresh treaties with the power of Rajputana and Central India whose relations with the British Government and with each other had remained unsatisfactory since 1805. At the same time he determined to put an end to the great Maratha league whose head was the Peshwa and whose chief members were the Bhonsla of Nagpur, Sindia, and Holkar.

As a part of the Marquis of Hastings' great scheme, at the close of the rains (October 1817), all available British forces were to be sent from the Deccan to Malwa. The intention of moving the English troops northwards was not kept secret, and, when Bajirav came to know of it, he determined not to miss the chance which it gave him of being revenged on Mr. Elphinstone. Part of the arrangement for the Pendhari

and Central India campaign was the appointment of Sir John Malcolm as Political Agent with the army of the Deccan. With his usual vigour, before moving north to Malwa, Sir John Malcolm visited all the Residents and native courts in the Deccan. When Sir John Malcolm reached Poona in August Bajirav was at Mahuli, the sacred meeting of the Vena and the Krishna in Satara. He asked Sir John Malcolm to visit him at Mahuli and Sir John Malcolm went. Bajirav complained of his crippled state under the treaty of Poona and of the loss of the friendship of the English, and declared his longing to have the friendship renewed. Sir John Malcolm advised him to collect troops, and, in the coming war with the Pendharies, to show his loyalty by sending a contingent to the English aid. Bajirav warmly approved of this plan, and spoke with such cordiality, candour, and sense that Sir John Malcolm went back to Mr. Elphinstone satisfied that all that was wanted to make Bajirav a firm ally of the English was to trust him and to encourage him to raise troops. Mr. Elphinstone told Sir John Malcolm that in his opinion to trust Bajirav and to let him raise troops were end in making him not a fast ally of the English but their open foe. Still though this was his opinion he would not oppose Sir Joan Malcolm's scheme. In August Bajirav received back Sinhgad, Purandhar, and Raygad. He stayed at Mahuli till the end of September doing his best, as he had promised Sir John Malcom, to collect a strong army. Bajirav's chief adviser was Bapu Gokhla a brave soldier of much higher position and character than Trimbakji Under Gokhla's influence Bajirav behaved with generosity to make of his great vassals restoring their lands and striving to make himself popular. Perhaps because he knew that no one trusted him he bound himself under a writing and by an oath to be guided by Bapu Gokhla. To meet the expense of his preparations Bajirav gave Gokhla £1,000,000 (Rs. one *kror*). Forts were repaired, fevies of Bhils and other hill tribes arranged, and missions sent to Bhonsla, Sindia, and Holkar. The part of the scheme which Bajirav liked best, and whose working he kept in his own hands, was the corruption of the English troops and officers and the murder of Mr. Elphinstone. Yashvantrav Ghorpade, a friend of Mr. Elphinstone's and of many British officers, was at this time in disgrace with Mr. Elphinstone on account of some intrigues. Under an oath of secrecy Bajirav induced Yashvantrav to undertake to buy over the British officers, and to this., on the advance of £5000 (Rs. 50,000) Yashvantrav agreed, and kept his vow of secrecy with such care that he never mentioned Bajirav's scheme to a soul. Yashvantrav had a great regard for Mr. Elphinstone. It was to Yashvantrav and to a Brahman named Balajipant Natu that Mr. Elphinstone owed his knowledge of Bajirav's plans, The Peahwa returned to Poona at the end of September. Reports of attempts to corrupt the British sepoys

came from all sides, and there was the still graver danger that Bajirav would influence others by threatening to persecute their families, many of whom lived in his South Konkan territories. Bajirav's plan was to ask Mr. Elphinstone to a conference and murder him, but to this Bapu Gokhla would not agree.

On the 14th of October Mr. Elphinstone and Bajirav met for the last time. Bajirav spoke of the loss he suffered under the treaty of Poona. Mr. Elphinstone told him that his only chance of regaining the goodwill of the English was to lose no time in sending his troops north to aid the English in putting down the Pendharies. Bajirav assured him that his troops would start as soon as the Dasara was over. Dasara Day fell on the 19th of October. It was the finest military spectacle since the accession of Bajirav. During the day two incidents showed the ruling feelings in Bajirav's mind; he openly slighted Mr. Elphinstone and he ordered a mass of his horse to gallop down on the British troops as if to attack and then to wheel off. The next week (19th-25th October) was full of interest. By night and day parties of armed men kept flocking into Poona from all sides. General Smith's force was now close to the Chandor hills in Nasik, too far to help Mr. Elphinstone, and the European regiment which was on its way from Bombay could not reach Poona for ten days. The British troops at Poona were cantoned to the north of the town. Gardens and hedges in many places led within half musket shot of the lines offering every help to attacking Arabs or to disloyal sepoys. First small parties, then large bodies of the Peshwa's troops came out and settled round the British lines. Vinchurkar's horse with some infantry and guns camped to the west of the residency between it and Bhamburda village. The Peshwa was urged to strike before reinforcements could reach Mr. Elphinstone. On the night of the 28th of October the guns were yoked, the horses saddled, and the infantry ready to surprise the British lines. But Bajirav's force was daily increasing; his intrigues with the sepoys were not completed: there was still time for delay. Next day (29th October) Mr. Elphinstone complained to the Peshwa of the crowding of the Maratha troops on the British lines. When the message was received Bapu Gokhla was for instant attack. But the arguments of the night before again prevailed, the Peshwa's schemes were not yet completed, the European regiment was, he believed, still far distant, and every hour the Maratha army was growing. At four next afternoon (3rd October) the European regiment after great exertions reached the cantonment. Next day (1st November), except 250 men who were left to guard the residency, Mr. Elphinstone moved the troops to a good position at the village of Kirkee four miles north of Poona. This movement gratified Bajirav as he took it for a sign of fear. The British cantonment was plundered and

parties of troops continued to push forward as if in defiance. Bajirav let three days more pass to allow the Patvardhans and his other Karnatak feudatories to join his army. Meanwhile General Smith, warned how matters stood at Poona, had ordered his light battalion to fall back on Sirur about forty miles north-east of Poona. On the 3rd of November Mr. Elphinstone directed the light battalion and part of the auxiliary horse to move from Sirur to Poona. When Bajirav heard that these troops had been summoned he determined to delay no longer.

[Battle of Kirkee, 5th November 1817.](#)

The strength of the two forces was, on the English side, including Captain Ford's battalion which was stationed at Dapuri about four miles west of Kirkee, 2800 rank and file of whom about 800 were Europeans. The Maratha army, besides 5000 horse and 2000 foot who were with the Peshwa at Parvati, included 18,000 horse and 8000 foot, or 33,000 in all. Mr. Elphinstone had examined the ground between the British head-quarters at Kirkee and Captain Ford's encampment at Dapuri. The two villages were separated by the river Mula, but a ford was found which Captain Ford's three six-pounders could cross. Mr. Elphinstone arranged that in case of attack Captain Ford should join Colonel Burr's brigade, and explained to all concerned that at any hazard they must act on the offensive. In the afternoon of the fifth Bajirav's army poured out of Poona, everything hushed but the trampling and the neighing of horses, till, from the Mutha to the Ganesh Khind hills, the valley was filled like a river in flood.

[Colebrooke's Elphinstone, I. 383; Forrest's Elphinstone, 50.] The residency was left and was at once sacked and burned, and Mr. Elphinstone retired to join the troops at Kirkee. A message to advance was sent to Colonel Burr who moved towards Dapuri to meet Captain Ford's corps; the corps united and together pushed on to the attack. Amazed by the advance of troops whom they believed bought or panic-struck, the Maratha skirmishers fell back, and the Maratha army, already anxious from the ill-omened breaking of their standard, began to lose heart. Gokhla rode from rank to rank cheering and taunting, and opened the attack pushing forward his cavalry so as nearly to surround the British. In their eagerness to attack a Portuguese battalion, which had come up under cover to enclosures, some of the English sepoy became separated from the rest of the line. Gokhla seized the opportunity for a charge with 6000 chosen horse. Colonel Burr who saw the movement recalled his men and ordered them to stand firm and keep their fire. The whole mass of Maratha cavalry came on at speed in the most splendid style. The rush of horse, the sound of the earth, the waving of flags, and the brandishing of spears

was grand beyond description but perfectly ineffectual. The charge was broken by a deep morass in front of the English. As the horsemen floundered in disorder the British troops fired on them with deadly effect. Only a few of the Maratha horse pressed on to the bayonets, the rest retreated or fled. The failure of their great cavalry charge disconcerted the Marathas. They began to drive off their guns, the infantry retired, and, on the advance of the British line, the field was cleared. Next morning the arrival of the light battalion and auxiliary horse from Sirur prevented Gokhla from renewing the attack. The European loss was sixty-eight and the Maratha loss 500 killed and wounded. [Details of the battle of Kirkee are given under Kirkee, Places of Interest. Blacker in his Maratha War (65-69) passes over Mr. Elphinstone's share in the victory of Kirkee. There is no doubt that Mr. Elphinstone planned and won the battle. Canning in the House of Commons said: In this singular campaign Mr. Elphinstone displayed talents and resources which would have rendered him no mean Mural in a country where generals are of no mean excellence and reputation. Forrest's Elphinstone, 55; compare Colebrooke's Elphinstone, II. 127.] On the evening of the 13th General Smith arrived at Kirkee. Since the 5th the Peshwa's army had received the important reinforcements he had been expecting from the Patvardhans and other southern feudatories. They moved from the city and took their position with their left on the late British cantonment at Garpir and their right stretching some miles east along the Haidarabad road. About sunset on the 16th General Smith threw an advanced guard across the river to take a position to the east of the Peshwa's army at the village of Ghorpadi. The British troops were met by a body of the Peshwa's infantry, but, after a severe struggle, they gained their position. During the night they were not molested and next morning the Peshwa's camp was empty. Bajirav had fled to Satara.

[Poona Surrendered, 17th November 1817.](#)

During the day Poona was surrendered. The greatest care was taken to protect the peaceable townspeople and order and peace were soon established. On the 22nd of November General Smith pursued Bajirav to Mahuli in Satara, from Mahuli to Pandharpur, and from Pandharpur to Junnar, among whose hills Bajirav hoped that Trimbakji would make him safe. At the end of December, finding no safety in Junnar, Bajirav fled south towards Poona. Colonel Burr who was in charge of Poona, hearing that the Peshwa meant to attack the city, sent to Sirur for aid. The second battalion of the 1st Regiment, under the command of Captain Staunton, started for Poona at eight at night on the 31st of December. They were 500 rank and file with 300 irregular horse and

two six-pounder guns well-manned by twenty-four European Madras artillerymen under a sergeant and a lieutenant.

THE BRITISH (**1817-1884.**)

[Fight at Koregaon, 1st January 1818.](#)

On reaching the high ground above the village of Koregaon, about ten in the morning of the first of January 1818, the battalion saw the Peshwa's army of 25,000 Maratha horse on the eastern bank of the Bhima. Captain Staunton continued his march and took possession of the mud-walled village of Koregaon. As soon as the Marathas caught sight of the British troops they recalled a body of 5000 infantry which was some distance ahead. The infantry soon arrived and formed a storming force divided into three parties of 600 each. The storming parties breached the wall in several places especially in the east, forced their way into the village, and gained a strong position inside of the walls. Still in spite of heat, thirst, and terrible loss the besieged held on till evening, when the firing ceased and the Peshwa's troops withdrew. Next morning Captain Staunton retired to Sirur. His loss was 175 men killed and wounded including twenty-one of the twenty-four European artillery men. About one-third of the auxiliary horse were killed, wounded, or missing. The Marathas lost five or six hundred men. [Details of this famous fight are given under Koregaon, Places of Interest.] During the whole day Bajirav sat about two miles off, watching 800 British troops keep 30,000 Marathas at bay. In his annoyance he upbraided his officers Gokhla, Apa Desai, and Trimbakji all of whom directed the attacks: You boasted you could defeat the English; my whole army is no match for one battalion of them. From Talegaon Bajirav fled to the Karnatak. He found it in Major Munro's hands and turned north, avoiding his pursuers by the skill of Gokhla. While the pursuit of Bajirav was going on the Marquis of Hastings had ordered Mr. Elphinstone to take over the whole of the Peshwa's possessions, except a small tract to be set apart for the imprisoned chief of Satara.

[Satara Proclamation, 10th February 1818.](#)

Satara fort was taken on the tenth of February 1818, and a proclamation was issued that for his treachery the Peshwa's territories had passed to the British. The proclamation promised that no religion should be interfered with and that all pensions and allowances should be respected, provided the holders withdrew from Bajirav's service. Nothing was said about service estates or *jagirs*. It was soon

understood that they would be confiscated or continued according as the holders showed readiness in tendering allegiance to the new government.

Before the country could be settled Bajirav had to be caught and his hill-forts to be taken. On the 14th of February Brigadier General Pritzler marched from Satara by the Nira bridge to Sinhgad. The siege was begun on the 24th of February and on the 2nd of March, after 1417 shells and 2281 shot had been spent, the garrison of 700 Gosavis and 400 Arabs hold out a white flag and next day surrendered the fort. From Sinhgad General Pritzler marched to Purandhar which was surrounded by the 11th of March. A mortar battery was opened on the 14th and on the 15th a British garrison occupied the neighbouring fort of Vajragad. As Vajragad commands Purandhar, the Purandhar garrison at once surrendered, and the British colours were hoisted on the 16th. In the north Colonel Deacon, on the 20th of February, after taking some places in Ahmadnagar, came to Sirur. On the 25th he reached Chakan, but, in spite of its strength, the garrison held out for only one day surrendering on the 26th. The British loss was four Europeans killed and wounded. After Chakan Colonel Deacon's detachment went to Lohogad and Isapur. At Lohogad there was already a besieging force under Colonel Prother who had reached Lohogad on the 4th of March from the Konkan by the Bor pass. Isapur was taken without resistance on the 4th, and on the 5th Lohogad was surrendered before the battery guns were placed in position. Tung and Tikona in Bhor immediately surrendered and Rajmachi was occupied without resistance. Koari, a place of importance commanding a pass, was attacked on the 11th. On the 13th a fire broke out and. on the 14th a magazine exploded and the garrison of 600 surrendered. The dependent fort of Ganga was occupied on the 17th. On the fall of Koari the troops returned to Poona. A fourth detachment under Major Eldridge on the 24th of April marched to Junnar which they found empty. They then took Chavand, Jivdhan, Hadsar, Narayangad, and Harishchandragad near the Poona-Ahmadnagar boundary. Of these Chavand and Jivdhan alone made a show of resistance. Chavand was bombarded on the first of May and next morning after 150 shells had been thrown the garrison of 100 men surrendered. Jivdhan, close to the Nana Pass was attacked on the third of May, and surrendered after an hour's firing. This completed the capture of the Poona forts.

[Pendhari and Maratha War, 294-316. Details are given under Places.]

About the middle of February, after the fall of Satara, General Smith went in pursuit of the Peshwa who was at Sholapur. After several forced marches General Smith came in sight of the Marathas at Ashta

about fifteen miles north of Pandharpur. The Peshwa taunted Gokhla with the success of his arrangements for preventing his master being surprised. Gokhla vowed that at least the approach to him would be well guarded. He waited with 500 horse for the English cavalry, attacked them as they passed out of a river bed, caused some loss and confusion but was killed and the Marathas put to flight. The Raja of Satara and his mother and brothers, to their great joy, were rescued from Bajirav's power. This surprise and defeat and the death of Gokhla upset the Maratha plans and did much to hasten submission. Bajirav fled to Kopargaon in Ahmadnagar, and from Kopargaon to Chandor in Nasik. From Nasik he passed into the Central Provinces, where, on the banks of the Vardha he was defeated and his troops dispersed. From the Vardha he tried to pass north to Sindia. At last from Dholkot near Asirgad he sent to Sir John Malcolm an offer of surrender, and on the 3rd of June surrendered and received a maintenance of £80,000 (Rs. 8 lakhs) a year. [Grant Duff's Marathas, 674-5. In the amount of the maintenance and in some other stipulations Sir John Malcolm showed that, in spite of the lesson he had learned at Mahuli, he was unable to resist Bajirav's fascinations. Bajirav died at Bithur in 1851.]

By the end of May the Poona force was divided between Sirur, Junnar, and Poona. At Sirur were stationed the head-quarters of the force, the head-quarters of the cavalry brigade and horse artillery, the remains of the foot artillery. His Majesty's 65th Regiment, the light battalion and the right wing of the 1st battalion of the 7th Bombay Native Infantry. At Junnar were placed one battalion of Bombay Native Infantry, two six-pounders, and a party of Captain Swanston's Horse. At Poona city and cantonment were placed details of Artillery and Pioneers, one Regiment of Light Cavalry, one European Regiment, and three battalions of Bombay Native Infantry. [Blacker's Maratha War, 315, 316.]

To the management of the city of Poona and the tract which lay between the Bhima and the Nira, Mr. Elphinstone, who had been named sole Commissioner to settle the conquered territory, appointed Captain Henry Dundas Robertson Collector, Magistrate, and Judge. The north of the conquered territory, now including North Poona Ahmadnagar and Nasik, which stretched between the Bhima river and the Chandor hills, was entrusted to Captain Henry Pottinger. With each of these officers, whose authority corresponded to that of the Peshwa's *sarsubhedars*, experienced natives were appointed to numerous subordinate situations on liberal salaries. To restore order in the country, to prevent the revenue being turned to hostile purposes, to guard and to please the people, and to improve not to change the

existing system were the first objects to which Mr. Elphinstone directed the Collectors' attention. As almost all the British troops were either pursuing the Peshwa or taking the western forts the Collectors' power of restoring order was at first small. Still by raising irregulars something was done to reduce the smaller places and destroy straggling plunderers. Mr. Elphinstone's great object was to learn what system was in force and to keep it unimpaired. He was anxious to stop people making laws for the country before they knew whether the country wanted laws. [Colebrooke's Elphinstone. II. 46.] In 1819 Mr. Elphinstone made arrangements for obtaining a knowledge of local customs and laws. Inquiries were circulated to all persons of known intelligence. A mass of valuable information was gathered, and, from the judicious nature of the questions, the inquiry tended to gain the confidence of the people rather than to arouse their suspicions. To prevent insurrection, to settle claims and rewards, to provide for all who had suffered, and to better the condition of those who were worthy of favour were among the duties which devolved on the Commissioner. At first to prevent disorders or risings a strict system of private intelligence, which was agreeable to Maratha ideas of government, was kept up. Armed men travelling without pass-ports were forced to lay down their arms, and the hoarded resources of the late government were seized wherever they were found. After the first year Mr. Elphinstone was able to relax these rules. No passport was required except from armed bodies of more than twenty-five men, and no search for treasure was allowed unless there was good reason to believe that the information regarding it was correct. A strong military force held positions at Poona, Sirur and Junnar, and numbers of the enemy's irregular infantry were employed in the British service. The ranks of the auxiliary horse were already filled by men enlisted beyond the borders of the Maratha country, but more than half the horses which returned from Bajirava's army died in the course of six months from the fatigue they had undergone. Few attempts at insurrection occurred. One conspiracy was detected which had for its object the release of the pretended Chitursing, the murder of all the Europeans at Poona and Satara, the surprise of some of the principal forts, and the capture of the Raja of Satara. The conspirators were men of desperate fortunes among the unemployed soldiery; many of them were apprehended and tried, and the leaders, some of whom were Brahmans, were blown from guns. This example had an excellent effect in restraining conspiracies. Except service-estates or *jagirs*, which could not be continued on the former basis of supplying contingents of troops, every species of hereditary right, all established pensions, charitable and religious assignments, and service-endowments were continued. Regarding the service-estates or *jagirs*

many points required consideration. In the first instance, unless specially exempted, every service estate or *jagir* was taken possession of in the same way as the territory in the immediate occupation of the Peshwa's agents. Estates which had been sequestered by the Peshwa were not restored. Some of the estateholders had established claims by their early submission or by former services to the British Government. The rest might justly be granted a suitable maintenance but could have no claim to the estates which they formerly held on condition of furnishing troops. Liberal pensions in land or money were granted to those who had aided the British Government during the revolution. The ministers of the late government and of the time of Nana Fadnavis who were wholly unprovided with means of living received life allowances. Mr. Elphinstone was anxious to maintain the *sardars* or gentry and nobles in the position they had held under the Peshwa. To deprive them of all signs of rank would be felt as oppressive by the upper classes and would be disapproved as unusual by the lower orders. The chiefs were classed according to their rank and the estimation in which they were held under the former government. They were freed from the immediate jurisdiction of the civil court, an appeal being allowed from the Agent to Sardars in Poona to the Governor in Council or to the Sadar Court. [Colebrooke's Elphinstone, II. 62,75.] The jury or *panchayat* was the ordinary tribunal for the decision of civil suits. The criminal law was administered by individual judges assisted by the authority of Hindu law in regulating the measure of punishment. In all important cases the sentences were passed subject to the Commissioner's approval. In revenue matters the farming system was abolished and the revenue was collected through government agents. Many poor Brahmans had become greatly dependent on the charitable gifts or *dakshina* which Bajirav, in the belief that they atoned for sin, had lavishly distributed. To have at once stopped these grants would have caused much suffering. At the same time so much evil was found to attend the grant of money in promiscuous charity that the greater part was devoted to founding a Hindi college at Poona.

Of the management of the country at the time of its transfer to British rule, Mr. Elphinstone (28th September 1819) had no great fault to find either with the criminal justice or the police. [Colebrooke's Elphinstone, II. 53.] The *panchayats* or civil juries were less satisfactory. They were difficult to summon, and they were slow and in all but simple cases were puzzled. [Colebrooke's Elphinstone, II. 54] The mass of the people were not opposed to the change of rule from the Peshwa to the British. They were strongly inclined for peace and had by no means been favoured under the Brahman government. Still

there were many disaffected Brahmans *deshmukhs* and other hereditary officers, and discharged soldiery. [Colebrooke's Elphinstone, III. 57.] The country had greatly improved during the sixteen years of British protection. The people were few compared to the arable area; the lower orders were very comfortable and the upper prosperous. There was abundance of employment in the domestic establishments and foreign conquests of the nation. [In the Satara Proclamation of 9th February 1818, Mr. Elphinstone pointed out that when the English restored Bajirav to power the country was waste the people wretched, and the government penniless. Since 1803, in spite on revenue-farming and exactions, under British protection, the country had recovered and Bajirav had heaped together about eight millions sterling of jewels and treasure Forrest's Elphinstone, 53; Colebrooke's Elphinstone, I. 303.] A foreign government must have disadvantages: many of the upper classes must sink into comparative poverty, and many of those who were employed by the court and the army must positively lose their bread. [Colebrooke's Elphinstone, II. 79, 80.] In August 1822 when as Governor of Bombay he came on tour to the Deccan, Mr. Elphinstone found the road so bad in places that his party had to dismount and reached Poona with lame and shoeless horses. The country was not changed. The town was the same, only all of the horses and most of the gentry were gone. [Colebrooke's Elphinstone, II. 141.] On his next visit to the Deccan in 1826 Mr. Elphinstone found that by reductions of assessment and still more by stopping exactions the burdens of the people had been much lightened. In spite of bad seasons and redundant produce the condition of the people was probably better than in the best years of the Peshwa's government. The police was worse than under the Marathas though perhaps not so bad as he had expected. Even in the neighbourhood of Poona there had been two or three bands of banditti and there was still one band headed by persons who had been captured and released from want of proof. Except gang robbery and perhaps drunkenness. Mr. Elphinstone did not think crime had increased. In his opinion the most unsuccessful part of the new system was the administration of civil justice. [Colebrooke's Elphinstone, II. 191, 192.]

[Mr. A. Keyser, C.S.] In the same year (1826), partly owing to the scarcity of 1825 partly owing to the reduction in the local garrison, the Ramoshis of south Poona rose into revolt and outlawry. For three year bands of Ramoshis were guilty of atrocious acts of violence. Under the leading of one Umaji they were so enterprising and successful that, in 1827, as they could not be put down, their crimes were pardoned, they were taken into pay, employed as hill police, and enriched with land grants. [Capt. Mackintosh in Trans. Bom. Geog. Soc. I. 260.]

Details of Ramoshi risings are given under Justice.] The success of the Ramoshis stirred the Kolis of the north-west Poona and Ahmadnagar hills to revolt. Large gangs went into outlawry and did much mischief in Poona, Thana, and Ahmadnagar. Strong detachments of troops were gathered from all the districts round, and, under the skilful management of Captain Mackintosh, by 1830, the rebel gangs were broken, their leaders secured, and order restored. [Trans. Bom. Geog. Soc I. 269-264. Details are given in the Ahmadnagar Statistical Account.] The next serious disturbances were risings of hill tribes between 1839 and 1846. Early in 1839 bands of Kolis appeared in various parts of the Sahyadris and attacked and robbed several villages. All castes joined them and their numbers soon rose to three or four hundred, under the leading of three Brahmans Bhau Khare, Chimnaji Jadhav, and Nana Darbare. The rising took a political character; the leaders declared that they were acting for the Peshwa, and assumed charge of the government in his name. As further reductions had lately been made in the Poona garrison the Brahmans persuaded the people that the bulk of the British troops had left the district. The prompt action taken by Lieutenant Rudd the superintendent of police and Mr. Rose the assistant collector prevented much mischief. Hearing that an attack was intended on the mahalkari's treasury at Ghode, Mr. Rose hurried to Ghode, collected a force of messengers and townspeople, and successfully repulsed the repeated attacks of 150 insurgents who besieged them through the whole night. This was their only serious venture. Shortly after Lieutenant Rudd with a party of the Poona Auxiliary Horse attacked and dispersed the band, taking a number of prisoners. As soon as the main band was broken the members were caught in detail and the rising was at an end. Fifty-four of the rebels were tried, of whom a Brahman Ramchandra Ganesh Gore and a Koli were hanged, twenty-four were pardoned or acquitted, and of the rest some were sentenced to transportation for life and others to various terms of imprisonment. The prompt and vigorous action of Messrs. Rose and Rudd received the thanks of the Court of Directors. In 1844 the hill-tribes again became troublesome, and, as usual, they were joined and helped by disaffected persons of various castes. The leaders of this rising were Raghu Bhangria and Bapu Bhangria the sons of a jamadar of the Ahmadnagar police a Koli by caste whom the Kolis carried off and forced to join them. The Bhangrias' head-quarters were the hilly country in the north-west of Poona. They attacked and robbed several villages generally without doing much harm to the people, but in two instances cutting off headmen's noses. The police made several captures. In one case Captain Giberne the superintendent seized as many as seventy-two outlaws, though Bapu Bhangria the leader

escaped. On the 20th of September 1844 Raghu Bhangria's gang cut off a native officer of police and ten constables who were benighted in the hills and killed all but three. In 1845, the disturbances spread to the Purandhar sub-division south of Poona, and from Purandhar south through Satara. The Poona police were strengthened by sixty-two Ramoshis, and on the 18th of August 1845, in consequence of a quarrel with one of his own men, Bapu Bhangria was caught. In spite of the loss of their leader the gangs, who had the secret support of several influential persons, continued to harass the country and plunder villages. Government money was seized while it was being collected, a *patil* was murdered because he had helped the police to detect some former outrage, several moneylenders were robbed and one or two were mutilated, and a writer in the Purandhar mamlatdar's establishment was murdered. In Purandhar, with the aid of a Gavli named Kema and a large band of followers, the sons of Umaji the leader in the 1825 rising committed similar depredations. On one occasion at Jejuri they carried off the litter with the holy image but they brought it back. As the police were not strong enough to restore order, in May 1845 a detachment of Native Infantry was quartered at Junnar, other troops were sent to Purandhar, and one hundred men were set to watch the Malsej and Nana passes by which the rebels moved up and down to the Konkan. Early in 1846 the Magistrate reported the country quiet, though, in spite of rewards, the ringleaders were still at large. During 1846 Umaji's sons were caught, but they escaped and were not retaken till April 1850 after heading a gang robbery which resulted in the murder of two persons. Except the chief Raghu Bhangria, the other leaders were all secured. A reward of £500 (Rs. 5000) was offered for Raghu Bhangria who was supposed to be gifted with supernatural power, and exercised great influence not only over his own men but over all the north-west Poona hills where, for years, he lived on blackmail levied from Poona and Thana villages. At last on the 2nd of January 1848 Raghu Bhangria was caught by Lieutenant, afterwards General, Gell, and a party of police at Pandharpur where he had gone dressed as a pilgrim. Since 1846 the outlaws had ceased to give much trouble, and, on the 19th of April 1850, the capture of Umaji's sons Tukya and Mankala brought the disturbances to a close.

During the 1857 Mutinies Poona was free from open acts of rebellion, even from offences requiring political prosecutions. In June 1857 a discharged constable was flogged for attempting to raise a disturbance in the city of Poona. Later in the same year the *maulvi* of Poona, Nural Huda, who was one of the leaders of the Wahabi sect of Musalmans in Western India, was detained in the Thana jail under suspicion of

carrying on a treasonable correspondence with the Belgaum and Kolhapur Musalmans who had joined the mutineers. One or two suspicious characters from Northern India were forced to return to their own country, and Chaturising a noted bad character who had given trouble for forty years was made a prisoner on suspicion of intriguing with the rebels. The Kolis and other hill tribes attacked a few villages and robbed their old foes the moneylenders, but even among them there was no outbreak of importance. In 1858 a man was prosecuted and condemned to death for publishing a seditious proclamation in favour of Nana Saheb, the late Peshwa's adopted son. But the conviction was quashed as inquiry seemed to show that the charge was malicious. In September 1857 a seditious paper was posted near the college and library in the city of Poona. The authors were not discovered, and so little importance was attached to this demonstration that no reward was offered for their apprehension. The local authorities were watchful, and the dangerous element in Poona city, which is always considerable, was overawed by the garrison.

In 1873, in the north-west of Poona, Honya, an influential Koli, at the head of a well trained gang, began a series of attacks on the moneylenders who habitually cheat and oppress the hill-tribes and at intervals drive them into crime. Many of the moneylenders were robbed and some had their noses cut off. Honya was caught in 1876 by Major H. Daniell then superintendent of police. In 1875-the spirit of disorder spread from the Kolis to the peace-loving Kunbis of the plain country, and, between May and July, chiefly in Sirur and Bhimthadi, eleven assaults on moneylenders by bands of villagers were committed. Troops were called to the aid of the police and quiet was restored. [Details are given under Capital.] In 1879 the peace of the district was again broken by three gangs of robbers. One of these gangs was of Poona Ramoshis led by Vasudev Balvant Phadke a Poona Brahman, another of Kolis under Krishna Sabla and his son, and a third of Satara Ramoshis under two brothers Hari and Tatya Makaji and one Rama Krishna. Within Poona limits no fewer than fifty-nine gang robberies were committed. These three gangs and a fourth gang in the Nizam's country were put down before the end of 1879.

THE LAND

[Materials for the Land History of Poona include, besides elaborate survey tables prepared in 1881 by Mr. R. B. Pitt of the Revenue Survey, Mr. Elphinstone's Report dated the 25th of October 1819 Edition 1872; Mr. Chaplin's Report dated the 20th of August 1822,

Edition 1877; East India Papers III, and IV. Edition 1826; Mr. Pringle's Lithographed Report dated the 6th of September 1828; Mr. Blair's Lithographed Report 643 dated the 9th of December 1828; Manuscript Selections 157 of 1821-29; Mr. Williamson's Report 2610 dated the 23rd of November 1838; Mr. Vibart's Report 311 dated the 24th of February 1842; Bombay Government Selections New Series LXX. CVII. and CLI.; and survey and yearly *jamabandi* administration and season reports and other reports and statements in Bombay Government Revenue Record 16 of 1821, 50 of 1822, 68 of 1823, 69 of 1823, 70 of 1823, 71 of 1823, 72 of 1823, 74 of 1823, 95 of 1824, 117 of 1825, 123 of 1825, 174 of 1827, 175 of 1827, 212 of 1828, 351 of 1831, 352 of 1831, 407 of 1832, 426 of 1832, 427 of 1832, 434 of 1832, 484 of 1833, 517 of 1833, 550 of 1834, 595 of 1834, 628 of 1835, 665 of 1835, 666 of 1835, 694 of 1836, 698 of 1836, 766 of 1837, 772 of 1837, 974 of 1839, 1052 of 1839, 1098 of 1840, 1241 of 1841, 1344 of 1842, 1414 of 1842, 1453 of 1843, 1568 of 1844, 17 of 1846, 17 of 1847, 15 of 1848, 23 of 1849, 205 of 1849, 16 of 1850, 24 of 1851, 18 of 1852, 172 of 1853, 15 of 1855, 17 of 1858, 17 of 1859, 15 of 1860, 17 of 1861, 90 of 1861, 13 of 1862-64, 235 of 1862-64, 75 of 1866, 57 of 1867, 59 of 1868, 65 of 1869, 95 of 1871, 81 of 1872, 89 of 1873, 97 of 1873; Government Resolution on Revenue Settlement Reports for 1873-74, Revenue Department 6092 dated the 27th of October 1875; Bombay Presidency General Administration Reports from 1872 to 1883; and the printed acquisition statement of the Bombay Presidency].

SECTION I - ACQUISITION AND STAFF.

[ACQUITION, 1817-1868.](#)

THE lands of the district of Poona have been gained by conquest, cession, exchange, and lapse. Most of the country fell to the British on the overthrow of the Peshwa in 1817. In 1844, under Government Resolution 1290 dated the 20th of April 1844, on the death of the Chief of Kolaba, the half village of Chakan in Khed lapsed to the British Government. In 1861 His Highness Sindia, by a treaty dated the 12th of December 1860, in exchange for other lands, ceded twelve villages, three in Sirur, seven in Bhimthadi, and two in Haveli. In 1866 His Highness the Gaikwar, under Government Political Resolution 2974 dated the 9th of October 1866, in exchange for other lands, ceded the half village of Chakan in Khed and one other village in Haveli. In 1868 His Highness Holkar, under Government Revenue Order 4470 dated the 28th of November 1868, in exchange for other lands, ceded six villages, one in Junnar, four in Khed, and one in Sirur.

STAFF, 1884.

District Officers.

The revenue administration of the district is entrusted to an officer styled Collector, on a yearly pay of £2790 (Rs. 27,900). This officer, who is also chief magistrate and the executive head of the district, is helped in his work of general supervision by a staff of four assistants, of whom two are covenanted and two are uncovenanted servants of Government. The sanctioned yearly salaries of the covenanted assistants range from £840 (Rs. 8400) to £1080 (Rs. 10,800); and the salaries of the uncovenanted assistants are £360 (Rs. 3600) and £720 (Rs. 7200). For fiscal and other administrative purposes, the lands under the Collector's charge are distributed among nine sub-divisions, including the city of Poona, which for revenue purposes is a separate sub-division known as the Poona sub-division and placed under the city mamlatdar who is a second class magistrate. Of the nine sub-divisions five are entrusted to the covenanted first assistant and the remaining four to the covenanted second assistant collector. Of the uncovenanted assistants one, styled the head-quarter or *huzur* account officer, and who is a deputy collector, is entrusted with the supervision of the account office and stamp and opium departments. The other, styled city magistrate, who is also a deputy collector, does the criminal and miscellaneous revenue work connected with the city. The treasury is in charge of the Poona Branch of the Bank of Bombay. The covenanted assistant collectors are also assistant magistrates, and have, under the presidency of the Collector, the chief management of the different administrative bodies, local fund and municipal committees, within the limits of their revenue charges.

Sub-Divisional, Officers.

Under the supervision of the Collector and his assistants the revenue charge of each fiscal division is placed in the hands of an officer styled *mamlatdar*. These functionaries who are also entrusted with magisterial powers have yearly salaries varying from £180 to £300 (Rs. 1800 -3000). Three of the fiscal divisions, Haveli Khed and Bhimthadi, contain each a subordinate division or *peta mahal*, placed under the charge of an officer styled *mahalkari*, who, except that he has no treasury to superintend, exercises the revenue and magisterial powers generally entrusted to a mamlatdar. The yearly pay of the mahalkari is £72 (Rs. 720).

Village officers.

In revenue and police matters the charge of the 997 $\frac{3}{4}$ Government villages is entrusted to 1128 headmen of whom six are stipendiary and 1122 are hereditary. Most of them are Kunbis, but some are Musalmans and others belong to the Brahman, Shenvi, Gurav, Nhavi, Dhobi, Dhangar, and Koli castes. One of the stipendiary and 116 of the hereditary headmen perform revenue duties only, one of the stipendiary and 117 of the hereditary attend to matters of police only, and four stipendiary and 889 hereditary headmen are entrusted with both revenue and police charges. The yearly pay of the headmen depends on the village revenue. It varies from 4s. (Rs. 2) to £23 14s. (Rs. 237) and averages £3 (Rs. 30). In many villages, besides the headman, members of his family are in receipt of state land-grants representing a yearly sum of £290 (Rs. 2900). Of £5223 (Rs. 52,230) the total yearly charge on account of the headmen of villages and their families, £435 (Rs. 4350) are met by grants of land and £4788 (Rs. 47,880) are paid in cash. Several of the larger villages have an assistant headman or *chaughula*. He is generally a Maratha Kunbi by caste and is paid 10s. to £5 (Rs. 5-50) a year. To keep the village accounts, prepare statistics, and help the village headmen there is a body of seventeen stipendiary and 816 hereditary or in all of 833 village accountants. Most of them are Brahmans and others belong to the Prabhu, Sonar, Gurav, and Golak castes. Every village accountant has an average charge of about one village, containing about 900 inhabitants, and yielding an average yearly revenue of £160 (Rs. 1600). Their yearly salaries vary from 6s. to £29 14s. (Rs. 3-Rs. 297) and average £7 12s. (Rs. 76). The total yearly charge amounts to £6570 (Rs. 65,700) of which £30 (Rs. 300) are met by land-grants and £6540 (Rs. 65,400) are paid in cash.

Village Servants.

Under the headmen and accountants are 6495 village servants, who are liable both for revenue and police duties. They are Kolis, Mhars, or Ramoshis. The yearly cost of this establishment amounts to £3027 (Rs. 30,270) being about 8s. (Rs. 4) to each man or a cost to each village of about £3 (Rs. 30). Of the whole amount, £2602 (Rs. 26,020) are met by grants of land and £425 (Rs. 4250) are paid in cash. The average yearly cost of village establishments may be thus summarised:

Poona Village Establishments, 1884.

	£	Rs.
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Headmen	6223	52,230
Accountants	6570	65,700
Servants	3027	30,270
Total	14,820	1,48,200

This is equal to a charge of £14 16s. (Rs. 148) a village or about thirteen per cent of the district land revenue.

[ALIENATED VILLAGES, 1884](#)

Of the 1201 villages of the district 997³/₄ are Government and 203¹/₄ are private or alienated. Alienated villages [Collector of Poona, 3070 of 25th April 1884.] are of three classes, *sharakati* or share villages whose revenues are divided between Government and private holders, *saranjami* or military service grant villages, and *inam* or grant villages. By caste the holders of these villages are Brahmans, Marathas, Prabhus, Malis, Vanis, Gosavis, and Musalmans. A few proprietors of alienated villages live in their villages and themselves manage them. Few alienated villages are in the hands of one proprietor; but it is the rental of the village not its lands which are divided among the sharers. The estates or estate-shares are often mortgaged but rarely sold to creditors. The condition of the people and the character of the tillage in alienated and neighbouring Government villages show no marked difference. Most holders of land in alienated villages pay a fixed rent, but some are yearly tenants. Tenants generally pay their rent in cash; but, in villages where the survey rates are not fixed, in a few cases they pay their rent in grain. The acre rates generally vary from 3*d.* to 3*s.* (Rs. ¹/₈-1¹/₂). In villages where the survey rates have not been introduced the rents are not fixed under any uniform system. In some villages the rent is so much the *bigha*, in others it is so much the *khandi*, and a lump payment is sometimes charged on a certain plot of land. In villages under the survey settlement the rates are the same as in Government villages; and in villages into which the survey has not been introduced, the alienees levy a rent equal to about 3*d.* to 3*s.* (Rs. ¹/₈-1¹/₂) the acre. The alienees make no special arrangements to meet the case of a tenant improving his field by digging a well in it, or by turning it from dry crop to rice land. The alienees set aside land free of assessment as village grazing land. In surveyed alienated villages the occupants have the same rights as regards trees as in Government villages. If an alienee applies to the Collector for help to recover his dues, assistance is given in accordance with the provisions of the Land Revenue Code.

SECTION II - HISTORY

Early Hindu Thal or Jatha System.

The earliest revenue system of which traces remained at the beginning of British rule was the *jatha* that is the family estate or the *thal* that is the settlement system. In 1821 from every original paper he could find relating to settlers or *thalkaris* and their occupation of land, the Collector Captain Robertson found that, at a former time, the whole arable land of each village was apportioned among a certain number of families. [Captain Robertson, Collector, 10th October 1821, East India Papers IV. 530-531. In 1821 in some villages the *jathas* or family estates were (Extract Revenue Letter from Bombay 5th November 1823, East India Papers III. 805) large plots of land with a fixed rental, called *mund*, and in other villages the large holding was divided into fields each with a fixed rate, called *thika* or *tika* ; these words seem to be of Dravidian origin and perhaps belong to the time of the Devgiri Yadavs (1150-1310) who had a strong southern element. The division and possession of land and the boundaries of villages were well defined before A.D. 1600 the time of Malik Ambar the minister of Ahmadnagar, and Captain Robertson was of opinion that private property in land existed from a very much earlier period. In an old account of the village of Ving of the Nirthadi district it is stated that ' during the management of Nabi Yar of the Kulbarga Sultanat there was neither a division of the fields nor of the bounds of the village, the plains being covered with grass, and the occupation of the people the feeding of horned cattle or *gure* for which a fixed sum was exacted. During the management of the Baridis in Bedar (1498-1526) and in the administration of the black and white Khojas (probably Khajas) the village bounds were fixed; portions of land were given to particular persons whose names were registered and a rent or *dast* was established.' The preamble to a paper exhibiting a renewed distribution of lands in the village of Gord in A.D. 1593 after that village had been depopulated and probably reduced like the village of Ving (though at a much later period) to be a pasture land for cattle, proves also something regarding the division of land at a remote period. ' Karim Beg Saheb Nawab sent Janu Saheb to settle the country. On reaching the village of Sal in A.D. 1593, where he halted for a month, Janu Saheb attached the *patilship* of the whole country until the *patils* put a stop to excitors of sedition and to plunderers going about the country. He then made an agreement with them, which set forth that as government had come to know that the country had been completely ruined from the disturbances and rebellions of late years, it was desirous of repeopling it and bringing it again into a flourishing

condition, and therefore that it granted *kauls* to the *patils* to assemble the villagers who had fled. The *patils* having been promised their *kabti* (?) rights, agreed to the terms and went to their different villages. Among the rest the *patil* of the village of Gord which was waste, assembled the inhabitants and went to the *sarkar*, where they requested that their lands might be measured out and assessed according to the measurement. In consequence of this, government ordered that the settlement made in Kutub-ud-din's time should be renewed. The people, satisfied with this order, returned home, and having met in the *dargha* of Syed Ambar Chasti, they determined that the old *mirasdars* should resume their old estates, and that those lands whose former proprietors were not present should be bestowed on new proprietors. As all agreed to the justice of this, the lands were occupied as follows: Bunyadi Thalkari or original landlord and Inamdars Jejji, Patil, Kale Mukadam to possess (1) his own field called Parinda containing twelve *khandis* of which ten and a half *khandis* are arable, and (2) three and a half *khandis* of the field called Chinchkele which contains seven *khandis* extending from the road to the river and of which the former *mirasdar* is not present.' Captain H. D. Robertson, Collector, 1st May 1820, East India Tapers IV. 415-416.] The number of families seems to have seldom been fewer than four or more than twenty-five except in large villages with dependent hamlets or *vadis* which in some cases seemed to have thirty to forty original families. The lands each family occupied were distinguished by the occupant's surname. Thus in a village the settlement or holding, *thal*, of a family of the Jadhav tribe was called *Jadhav Thal*; the holding of a Sindia family *Sindia Thai*; and of a Pavar family *Pavar Thal*; and though none of their descendants remained, the estates still (October 1821) kept the name of the original settler. These holdings were called *jathas* or family estates. Whether each estate at first belonged to a single person is not known. It seemed to Captain Robertson, that, at the time of the original settlement, one man with his children took a fourth or a fifth or a sixth share of the village lands. His reason for this opinion was that in the family estates which remained perfect in 1821 the original estate was held in small portions by persons of the same family and surname who had acquired their separate shares by the Hindu law of succession. These descendants were collectively termed a *jatha* or family. Among them they were supposed to possess the whole of the original estate; and as a body they were responsible for the payment of whatever was due to government and others for the whole estate. If the owner of one of the shares let his land fall waste, the whole family was responsible for his share of the rental; and the land of his share was placed at their disposal. In the same way, if a member of the family died without an heir, his portion of the family

estate was divided among the surviving relations according to the Hindu law of inheritance. The individual members and sharers of the land of a *jatha* or family estate appeared always to have been at liberty to do what they pleased with their own portions. They might let them out for a year or for several years or they might allow them to lie fallow. But whatever they did with their land they were responsible to the other members for their share of the government demand. It was therefore an object with the whole of the members of a family estate or *jatha* to see that no individual by extravagance or carelessness ruined himself and burthened the rest with the payment of his share of the rental. Any member of the family estate was also free to dispose of his share of the patrimony or '*baproti*' literally father's bread. If a sharer of a joint estate wished to sell his share, it was never allowed to go to a stranger if any of the family was able to buy it. If no member of the family was able to buy it, and if the holder of the share was forced to sell, the share was made over to any one, a Brahman or a Kunbi of another family, or a Musalman, whoever might offer to buy it. The admission of outsiders as members of the joint estate by purchase gave rise to a distinction between the shareholders. The sharers who belonged to the original family were known as *ghar bhaus* or house brothers and the sharers who entered by purchase were known as *biradar bhaus* literally brethren, brothers apparently in the sense of legal brothers. [East India Papers, IV. 531. *Biradar*, a brother, a Persian word used only in grants deeds and public papers.] The new brother became liable to all the particular customs and rules which bound the body of sharers he had joined. In 1821, though there remained no trace of the practice, several old settlers or *thalkaris* agreed in stating that very long ago the representatives of the eldest branch of the family estate or *jatha* looked after the cultivation and gathered the dues from the younger branches. The head of the family stood between the younger branches and the headman or *mukadam* of the village. When from any cause the family estate failed to pay the government rental, the village headman never looked to the individual members but to the head of the family to make good what was wanting. Though this practice had ceased long before the beginning of British rule, a trace of it remained in the custom of having one family estate chosen, either by government or by other family estates, to undertake, through its head, the duty of collecting their shares of the government demand from the different estates. To this duty was joined the responsibility of making good any failure in the amount of the government demand. The members of the family-estate who were thus chosen to represent the village were all styled *patils*, and the head of the *patil* estate was called the *mukadam* or chief of the *patils* and therefore the chief of all the other joint estates of the village.

[Captain Robertson thought that, from the meaning of the word *patil*, which he apparently derived from *pattakil* that is the holder of a grant or lease, the use of *patil* as a member of the responsible estate was not the original use of the word. In his opinion the word *patil* was originally applied to a person by whom the whole of a new village was settled. He noticed that the use of the Persian term *mukadam* showed that the practice of choosing one man to be responsible for the whole village revenue did not date from before the Musalman conquest of the Deccan. Captain Robertson, Collector, 10th October 1821, East India Papers IV. 531-534] In some villages for the same reason that it was found convenient to have one responsible family-estate it was found desirable to have a second joint-estate to help the first. In this way arose the *chaughulas* or families of assistant *patils*. In 1821 the members of the family-estate which was responsible for the village rental or the *jatha* of *patils* were respected more than the members of the other family-estates. The position of head or *mukadam* of the village was attended with several advantages. Besides his own share of his family-estate the headman held grant or *inam* lands free from tax. He also had the control of the village expenses and several other substantial perquisites. In the same way as all the members of a family-estate or *jatha* were obliged to make good the share of any defaulting member, so the body of family-estates were bound to make good the share of any defaulting estate.

In Captain Robertson's opinion the village head or *mukadam* had formerly been and still was as much a natural head of the village society as a servant of government. It was a matter of no small importance to the members of the joint estates to have a representative who could meet and settle the claims of the officers of government. The headman had been and was still a magistrate by the will of the community as well as by the appointment of government. He enforced the observances of what in England would be termed the bye-laws of the corporation; he formerly raised by contribution a sum of money to meet the expenses of the corporation and to support his own dignity as its head; [Until the *kamal* or highest that is the Maratha settlement, which was made between 1758 and 1760, the headman was allowed to spend what amount he chose on village expenses. In 1760 government undertook to regulate village expenses and the sums spent were entered in the yearly rent statement or *jamabandi*. East India Papers, IV. 532-533.] he suggested improvements for the benefit of the association and marshalled its members to aid him in maintaining the public peace; he dispensed civil justice as a patriarch to those who chose to submit to his decision as referee, or he presided over the proceedings of others whom either he or the parties

concerned named as arbitrators. Captain Robertson was of opinion that in virtue of his position as president of the corporation, the *mukadam* was originally granted the management of its affairs, and the regulation of the village feasts and temples, and that, like other presidents, he had turned this power to his own advantage, and by degrees, increased the amount of the village charges.

In a country like the Deccan, which for centuries had been subject to perpetual revolutions and disturbances, many villages must have found the benefit of forming a society, all of whose members were bound to support each other. The strength of the feeling of fellowship or association was shown by the walls which guarded the villages and by the bravery with which in disturbed times these walls had often been defended against large bodies of troops.

Though in theory the leading family estate and its head were responsible for the whole rental of the village and were bound to make good the failures of minor family estates, this responsibility could be enforced only in ordinary years. When any great and general calamity happened, and the ruin of villages from war or from pestilence was not uncommon and in nine cases out of ten was the result either of the weakness or of the greed of the government, the government was forced to take less than the full rental, sometimes to recover only from the ground which was actually under tillage. Still in times of disorder and misrule the remissions were often insufficient to prevent the impoverishment if not the ruin of the responsible head. Headmen were forced to part either with the whole or with some of their rights and privileges. When a headman was forced to sell his rights and privileges two or three sharers by purchase were occasionally established, and each took a certain number of family estates, or if the original family estates had been broken, they took a certain number of individuals for whose share of the rental they became responsible and from whom they received *man-pan* or tokens of respect. These divisions of the headship were known as *thalkaris' sarfas* or *sarifas* that is settlers' dues. A sharer or *takshimdar* of the headship had also assigned to him a share of the waste or *gatkul* land in proportion to his share of the headship. This plan of ranging a certain number of family estates or of individuals under each sharer in the headship was, no doubt, a good arrangement for the individual landholder as it saved him from the risk of having to pay headship dues to more than one person. The respect or *man-pan* enjoyed by the head or *mukadam* was never shared by his relations unless when the office had been lately acquired by purchase. When a headship was bought the signs of respect or *man-pan* were generally distributed among all the members of the purchasing family.

[Capt. Robertson, Collector, 10th Oct. 1821, East India Papers IV. 531-534.]

Malik Ambar.

Another revenue system of which traces remained at the beginning of British rule was the system of Malik Ambar, the famous Abyssinian minister of the last Nizam Shahi king Murtaza II. at the beginning of the seventeenth century. Malik Ambar seems to have adopted many of the principles of Todar Mal's settlement which was introduced into parts of Upper India and of Gujarat during the reign of the Emperor Akbar (1556-1605), and into Khandesh and parts of the Deccan during the reign of Shah Jahan (1627-1658). According to Captain Robertson, the object of Todar Mal's settlement was to measure the land under tillage into *bighas* and to divide the lands into four classes according to their quality, to ascertain from year to year what crops had been grown, to strike a medium of the value of the crops grown, and to take one-fourth of the estimated value of the crops in cash. This was called the cash rent settlement or *jamabandi nagdi* and the holdings which were held under this settlement were known as *rakbas* or areas. [East India Papers, IV. 409.]

Like Todar Mal's settlement Malik Ambar's system was based on a correct knowledge of the area [It is doubtful if Malik Ambar's *bighas* were of uniform size.] of the land tilled and of the money value of the crop, and the determination to limit the state demand to a small share of the actual money value of the crop. Malik Ambar's settlement was introduced between 1605 and 1626. In 1820 he was still remembered as the benefactor of the people. According to a Maratha legend which narrated events that occurred about-1618, Malik Ambar was said to have doubled the revenues of the government at the same time that he improved the state of the people. According to another tradition it was Malik Ambar who established the village servants or *balutas*.

[Captain Robertson, 1st May 1820, East India Papers IV. 408-409.]

One chief point of difference between the systems of Todar Mal and of Malik Ambar was that Malik Ambar converted his grain demand into fixed cash rates- These conversion rates did not vary with the fluctuations in the price of grain and from their extreme lowness were probably at the time when they were introduced greatly below the actual prices. Todar Mal's conversion rates from grain into cash seem to have been based on the produce prices which were ruling when his survey was introduced. His system provided for a revision of the conversion rates so that they might continue in agreement with the actual market prices of grain. [East India Papers, IV. 410. According to

Grant Puff (Maratha History, 43) Malik Ambar abolished revenue farming, and committed the management of the land revenue to Brahman agents under Muhammadan superintendence. He restored such parts of the village establishment as had fallen into decay and he revived a mode of assessing the fields by collecting a moderate proportion of the actual produce in kind, which, after the experience of several seasons, was (1614) commuted for a payment in Money fettled annually according to the cultivation. His assessment was said to be two-fifths and his money commutation one-third of the produce.] Malik Ambar's experiments to fix the average outturn of the different plots of village land were confined to the arable lands of the village. Hill lands were not included. Before Malik Ambar's time the boundaries of the villages were known. What he did was to introduce into the arable land, for waste and hill lands seem not to have been included, the practice of division into equal areas or *bighas* and of varying the demand on these areas according to the quality of the soil. Under Malik Ambar's plan when the whole arable land of the village had been ascertained, it was divided according to ancient practice into two classes *bagayat* or garden land and *jirayat* or corn-land. The arable area was also, divided into *khalsa* or land which yielded a revenue to government and *inamat* or land whose government rental had been alienated " through favour or in return for service. After deducting the land whose government rental had been alienated from the total area, the *khalsa* land, that is the land which paid a rent to government, was entered as including so much garden or *bagayat* and so much corn-land or *jirayat*. In the accounts two classes of rent-alienated land were distinguished, *dumala* or two-owned *inam* which was held by *vatandars* and wholly *inam* which was held by mosques and temples and by village servants. After the entries regarding the rent-alienated lands, were the details of the assessment of the rent-paying or *khalsa* lands and lastly there was an entry of the cesses, some of them fixed others varying, which were levied on the craftsmen, shopkeepers and village servants or *balutas*. [East India Papers, IV. 415.] Captain Robertson found no evidence to show what portion of the produce Malik Ambar took as the government share. He thought it fair to conclude that Malik Ambar fixed the share at less than one-third, which had been the usual exaction before his time. In Captain Robertson's opinion he probably adopted Todar Mal's plan and fixed the rent at one-fourth of the produce. [Captain Robertson, 1st May 1820, East India Papers IV. 418; Capt. Robertson's Report of 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 479. Compare Granat Duff (Maratha History, 43) who states that Malik Ambar's share when reduced to cash equalled one-third, and Elphinstone's History of India, 553. Grant Duff's estimate has been accepted by later writers.

See Bom. Gov. Sel. CVII. 9. According to the *tankha* assessment which was introduced by Todar Mal the celebrated minister of Akbar, and which derived its name from the small silver coin in which the revues were collected, the lands were in the first instance assessed with reference to the fertility in a proportion varying from one-half to one-seventh of the gross produce according to the expense of culture and to the description of crop grown. The government share was then commuted for a money payment and in time when a measurement classification and register had taken place, the regulated assessment was fixed at a fourth of the whole produce of each field throughout the year and thus became the permanent assessment of the land. This is Captain Grant's description of the principles on which the *tankha* assessment was fixed. Mr. Mills, Principal Collector, 23rd December 1835, Bom. Gov. Rev. Rec. 698 of 1836, 52] Malik Ambar encouraged the higher kinds of cultivation by levying no special garden rates. [Captain Robertson, 1st February 1825, Bom. Gov. Rev. Rec 117 of 1825, 488]

As regards the character of Malik Ambar's survey well informed natives were of opinion that the areas were fixed not by measuring but by a glance estimate or *nazar pahani*. This view seemed to be supported by the fact that he continued to use the old terms for measuring. He seemed to have divided the land into good and bad without attempting so elaborate a classification as was intended in Todar Mal's scheme. Malik Ambar though he may have called the divisions of land or holdings *bighas*, seems to have used the word *bigha* in its original sense of share and not in its later sense of an area containing a definite number of square yards. He seems to have fixed the amount which a holding could bear by a test of the produce it yielded. In some cases a man might hold double as large a *bigha* as another, but the land was probably only half as rich and so the pressure of the demand was the same. It was the crop-yielding powers of the different estates which were fixed, not their areas. [Captain Robertson, 1st May 1820, East India Papers IV. 418; Captain Robertson, 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 482. Captain Robertson thinks it not certain whether Malik Ambar measured the square contents of the land. Bom. Gov. Rev. Rec. 117 of 1825, 480.] At the same time the fact that when tested by measurements the quantity of grain taken on an estimate *bigha* varied from about 54 to 90 pounds (9/16 to 15/16 of a *man*) showed that Malik Ambar had taken pains to ascertain the capabilities of the village lands. According to a tradition, which Captain Robertson believed was correct, the plan he followed in ascertaining the productive powers of a field was by a test or *nimtana* of the produce it yielded. [Captain Robertson (East India Papers, IV. 420)

notices that the test or *nimtana* system was still common in North India and in parts of Khandesh and Gujarat. It was the basis of the *batai* or crop-share system. The test system was the system adopted by Shivaji's father Shahaji's headman Dadaji Kondadev when he introduced a settlement into the Mavals or western hill tracts of Poona in 1645.] At harvest time the sheaves were counted in a field of an estimated number of *bighas*. Three sheaves, a good, a middling, and a bad, were picked out and the quantity of grain each contained was ascertained and the average of the three yields was struck and this average multiplied into the whole number of sheaves gave the grain-yield of the field. [East India Papers, IV. 420.] These experiments were repeated through a series of years some say as many as ten years to ascertain the effect of the season on the yield of the land. In this way the yield in an average season was ascertained.

The amount realized by the trade and other cesses varied from year to year, and the share of the village revenue which continued to be taken in grain fluctuated with the price of grain, but under Malik Ambar's system the bulk of the demand on each village became constant. [East India Papers, IV. 418.] Malik Ambar's settlement contains no reference to waste land. According to Captain Robertson he based his estimate on the whole arable land of the village without reference to the state of cultivation. After fixing what rental it should pay to government he handed the management of the village to the *patils* with orders that they should realize the amount. [Captain Robertson, 1st May 1820, East India Papers IV. 418. It has already been noticed that Malik Ambar's survey did not include unarable waste lands. If his settlement was the boon which it was believed to be, it seems difficult to understand how he could have called on the village to pay for more land than was actually under tillage or at least was held for cultivation.] It appears that under Malik Ambar's system the whole of the detailed arrangement with the actual landholders was left to the village head. Under this system the headman was either a contractor who was bound to raise a certain sum from the village or he was the representative of the whole body of landholders or *mirasdars*. As the headman or the representative was bound to pay the whole village rental, so each holder was bound to pay the whole of the share of the rental to which his land was liable whether his land was under tillage or was waste. [East India Papers, IV. 418-419.]

After Malik Ambar's examination or glance survey of the arable land of a village the quantity of grain which it should be called upon to pay was fixed. [Captain Robertson (1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 479) says the whole arable and assessed lands.']

After the quantity of grain which the whole village should yield was fixed, the rents of alienated lands were deducted and either the whole of the grain or some part less than the whole was turned into a cash payment. There seemed to be no instance of a fixed money settlement which had not before been a fixed grain settlement. As Malik Ambar made his commutation rates permanent he was forced to fix them very low. In Malik Ambar's estimates the price or money value of grain was not more than one-seventh of the average price of the same amount of grain between 1820 and 1825. This Captain Robertson was assured by the hereditary revenue officers was not due to any change in the size of the grain measures. [Captain Robertson, 1st May 1820, East India Papers IV. 419-420; 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 481.] Calculations made by Captain Robertson seemed to show that on the *shenshahi bigha* of 3926 $\frac{2}{3}$ square yards or about 4/5ths of an acre, which was the land measure in use in the Deccan since the time of the Moghals, Malik Ambar's demand amounted in grain to about 82 pounds (13/16ths of a *man* of twelve *paylis* or about 101 pounds) and in money according to Malik Ambar's grain prices to 7 $\frac{1}{2}$ d. (5 *as.*) and according to the prices of grain in 1820 varied from 3s. 6d. to 4s. (Rs. 1 $\frac{3}{4}$ -2). [Captain Robertson, 1st May 1820, East India Papers IV. 420. Captain Robertson's calculation of the average amount of grain taken under Malik Ambar's system was based on a knowledge of the area of arable land ascertained by actual measurement between A.D. 1662 and 1666 and of the quantity of grain taken as a fixed rent by Malik Ambar and his successors.. The quantity of grain was fixed on a *shenshahi bigha*. The measurements introduced by the Moghals showed that in an uniform area of 3926 $\frac{2}{3}$ square yards, that is on a *shenshahi bigha*, the rates introduced by Malik Ambar, based chiefly on the ascertained outturn, varied from 9/16ths to 14/16ths and 15/16ths of a *man*. The average was 13/16ths. This average was ascertained by summing the arable land in forty villages and comparing it with the whole fixed quantity of grain payable by these villages under Malik Ambar's permanent settlement. According a Captain Robertson's calculations, on the average price of grain between 1820 and 1825 which was 42 pounds for 2s. (5 *paylis* the *rupee*), 9/15ths of a *man* represents a *shenshahi bigha* rate of Re. 1 *at*. 5 $\frac{1}{2}$ 10/16ths of Rs. 1 $\frac{1}{2}$; 11/16ths of Re. 1 *as*. 10 $\frac{1}{2}$; 12/16ths of Re. 1 *as*. 12 $\frac{3}{4}$; 13/16ths of Re. 1 *as*. 15; 14/16ths of Rs. 2 *as*. 1 $\frac{1}{2}$; and 15/16ths of Rs. 2 $\frac{1}{4}$. capt. Robertson, 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 480-481.] According to Captain Robertson the low rates fixed by Malik Ambar greatly enriched the country. The headmen were able to let out waste lands at rates which secured cultivators; the interests of landholders were fostered, and cultivators

appeared in villages which had before been empty. [Capt Robertson, 1st February 1825, Bom, Gov, Rev, Rec. 117 of 1825, 481-482]

The Marathas.

About 1637 when Mahomed Shah (1626-1656) of Bijapur made an alliance with Shah Jahan, the Bijapur king gave to Shahaji, Shivaji's father, the greater part of the present district of Poona including the divisions of Chakan, Poona, Supa, Baramati, Indapur, and the twelve mountain valleys called Mavals. Shahaji entrusted the management of his land to Dadaji Kondadev a Brahman who is said to have been extremely just and prudent, but very severe. Dadaji Kondadev took advantage of the distress in 1630 to tempt large numbers of cultivators to settle in the lands under his charge, [East India Papers, IV. 413.] and took such pains to improve the country that, if we may credit his historian, there were not twenty cubits of arable waste in the whole of his charge. This statement seems to be mainly poetical as another Maratha account describes the Mavals or the greater part of the hilly west of Poona as miserable and empty of people, overrun with woods and with wolves. Dadaji destroyed the wolves and cleared much of the forests and introduced or confirmed Malik Ambar's settlement, fixing the amount of the government demand by a test or *nimtana* of the actual outturn of the crop. In connection with Dadaji Kondadev's revenue management it is worthy of note that when Shahaji overran the eastern Karnatak he drew numbers of Maratha Brahmans from Poona and appointing them *deshmukhs*, *deshpandes*, and *kulkarnis*, introduced Dadaji's revenue system into his conquests. [East India Papers, IV.412 Lt. Col. Mark Wilks' South of India, 1810, I. 72-74.] The same practice was introduced by Shivaji about 1652 into his Konkan and other conquests. [East India Papers, IV. 412-414. Jervis' Konkan, 90,92.]

The Moghals.

In 1664 when the Moghals under prince Muazzam drove Shivaji out of his father's lands, they found the country much reduced by the ravages of war and pestilence. Between 1662 and 1666 they made a correct measurement and division into uniform *bighas* of 3926 $\frac{2}{3}$ square yards of a large area of land near Poona. [East India Papers, IV. 420; Bom. Gov. Rev. Rec. 117 of 1825, 480-481, 486-487.] But in the depressed state of the country they were not able to continue Malik Ambar's system. In 1664 in its stead prince Muazzam introduced a crop division or *batai* system under which the outturn was divided equally between the government and the landholder or *rayat*, who,

besides paying half of his crop, had to meet the cost of the district superintendent or *deshmukh* and the accountant or *deshpande* and also of the village headman and village accountant. [Bom. Gov. Rev. Rec. 117 of 1825, 486-487.] Special garden rates of £1 7s. 7¼d. the acre (Rs. 11¼ the *bigha*) in channel watered or *patasthal* and of 18s. 4¾d. the acre (Rs. 7½ the *bigha*) in well watered or *motasthal* lands, were for the first time introduced. [Capt. Robertson, 1st Feb. 1825, Bom. Gov. Rev. Rec. 117 of 1825, 488.]

The Marathas.

In 1669 when Shivaji reconquered Poona he introduced a cash rental instead of a payment in kind. The rates seem to have been based on the custom or *rivaj*, which was apparently in use before Malik Ambar's time, of government taking one-third and leaving two-thirds to the landholders. This one-third demand represented an acre rate of about 260 pounds (2 *mans* 2½ *paylis* the *shenshahi bigha*) in first rate land; 177 pounds (1½ *mans* the *bigha*) in second rate land; and 118 pounds (1 *man* the *bigha*) in third rate land. On the grain prices ruling about 1825 these amounts represented a cash acre rate of 13s. (Rs. 5 *as*. 4¾ the *bigha*) in first rate land; of 8s. 10d. (Rs. 3 *as*. 9½ the *bigha*) in second rate land; and of 5s. 11d. (Rs. 2 *as*. 6½ the *bigha*) in third rate land. Shivaji continued prince Muazzam's garden rate of £1 7s. 7¼d. the acre (Rs. 11¼ the *bigha*) in channel and of 18s. 4¾d. the acre (Rs. 7½ the *bigha*) in well-watered land. No change was made in the relations between, the government and the landholder. The settlement was, as it had been under Malik Ambar's settlement, by village or *mauzevar*. The village had to make good a lump sum. The villagers were left to arrange among themselves for the payment of shares which had fallen waste. Land deserted by its owner became the joint property of the village. The remaining villagers tilled it either dividing it among themselves or clubbing together to cultivate it as common land. If this system had been continued Captain Robertson thought that individual property in land would have disappeared. Under this system Shivaji's rental was uncertain and the people suffered, and in 1674 Malik Ambar's system of a fixed money rent for the whole village was restored. [Capt. Robertson, 1st Feb. 1825, Bom. Gov. Rev. Rec, 117 of 1825, 487-489.]

The troubles during the wars between Shivaji and the Moghals and between Aurangzeb and Bijapur which ended in the overthrow of Bijapur in 1686, and the still greater disorders which filled the first twenty years of the eighteenth century must have caused a decline in the area under tillage and in the production. There was also according

to Captain Robertson (1st February 1825) [Bom. Gov. Rev. Rec. 117 of 1826, 489-491. Also 1st May 1820. East India Papers IV. 426-427.] an increased abundance of money; partly because money had been cheapened By the continuous working of the American mines, and partly because in the spread of Maratha power the spoils of a great part of India were brought home by the Poona soldiery. The effect of the rise in the price of produce was greatly to reduce the government share in the outturn of the land. To make this loss *good*, or probably rather to adapt the system to the disordered state of the country, fresh cesses were levied at any time and under any form which seemed to be likely to yield revenue. This continued till 1758 when under the rule of Peshwa Balaji Bajirav (1740-1761) a new and very elaborate measurement and settlement was introduced. The new settlement was introduced into great part of Junnar between 1758 and 1768 and at a later date into the neighbourhood of Poona. The rates under this new system were termed the *hamal*. The amount of money levied under the *kamal* was about twice as great as it had been under Malik Ambar's *tankha* settlement. The land was measured and entered in *shenshahi bigh'as* and the *bigha* rates were fixed according to the quality of the soil. The *kamal* or Peshwa system also differed from the *tankha* or Musalman system in levying the village rental on the area actually under tillage and not on the whole arable area of the village. Under the new system the whole rental or *kamal akar* of a village was composed of the original rental or *ain jama* and of extra or *shivayajama*. Thus in the village of A vsari Khurd the *kamal* settlement gave the following details. The measurements showed an area of 2530 acres or 3120 *shenshahi bighas* in actual cultivation, assessed at £393 (Rs. 3930). Of the whole area 19 acres ($23\frac{3}{4}$ *bighas*) were garden land or *bagayat* assessed at 14s. 9½d. an acre (Rs. 6 a *bigha*); 192 acres ($236\frac{3}{4}$ *bighas*) were green products and fruit tree land called *mala* and assessed at 7s. 4¾d. an acre (Rs. 3 a *bigha*); 336 acres ($414\frac{1}{4}$ *bighas*) of black or first class grain land called *kali* and assessed at 4s. 11d. an acre (Rs. 2 a *bigha*); 435 acres ($536\frac{3}{4}$ *bighas*) of second class grain land assessed at 3s. 7½d. an acre (Rs. 1¼ a *bigha*); 478 acres ($589\frac{1}{4}$ *bighas*) of third class grain land assessed at 2s. 5½d. an acre (Rs. 1 a *bigha*), and 1070 acres ($1319\frac{1}{4}$ *bighas*) of fourth class grain land assessed at 1s. 10½d. an acre (Rs. ¾ a *bigha*). To this original rental or *ain jama* was added under *shivaya jama* or extras £4 16s. (Rs. 48) under Mhars' land or Mhar *hadola*, £15 8s. (Rs. 154) as trade tax or *mohtarfa*, and £6 12s. (Rs. 66) from village servants entered as *baluta*. [East India Papers, IV. 427. It seems doubtful how far the elaborate system described in the text was introduced. In the Purandhar sub-division a very much rougher system seems to have been in force. The arable lands were parcelled into *chahurs*, each

chahur representing about 120 *bighas*. These which contained lands varying much in quality were assessed in poor villages at Rs. 36 to Rs. 60, in middle villages at Rs. 60 to Rs. 90, and in good villages at Rs. 90 to Rs. 120 or Rs. 130. Lt. Shortrede 1st Oct. 1835 Bom. Gov. Rev. Rec. 698 of 1836, 85; Mr. Mills, 23rd Dec. 1835, Do. 58. Capt. Robertson, 1st May 1820, East India Papers, IV. 427. Other items of extra assessment or *shivaya jama* are mentioned by Mr. Elphinstone: On the cultivators *dahak patti* or a tax of one year's revenue in ten; on the lands of the *deshmukh* and *deshpande chavthai* or a fourth of the fees levied every year; on the Mhars a *mhar mharki*; on *mirasdars* a *miras patti* once in three years; on *inamdars* an *inam tijai* or one-third of the government share of their lands and an *inam patti* or occasional tax imposed in times of need; *pandhar gana* an additional 12 per cent on the *tankha*, levied once in twelve years; and *vihir hunda* or an extra tax on lands watered from wells. Other taxes were on traders alone. These were *mohtarfa* or a tax on shopkeepers varying with their means, in fact an income tax; *baluti* or a tax on the twelve village servants; these too were sometimes included in the *ain jama* and in some places the *mohtarfa* formed a distinct head by itself; *bazar baithak* or a tax on stalls at fairs; *kambhar khan* or a tax on earth dug up by the potters. The following fell indiscriminately on both classes; *ghar patti* or *ambar sari* or house tax levied from all but Brahmans and village officers; *bachak pahani* or a fee on the annual examination of weights and measures; *tug* or a similar fee on examining the scales used for bulky articles; *danka*, or *danka*, or a tax on the right to beat a drum on particular religious and other occasions; *kharidi jinnas* or purveyance or a tax on the right to purchase articles at a certain rate; this was generally commuted for a money payment; *lagan takka* or a tax on marriages; *pat dam* or a particular tax on the marriage of Widows; *mkais patti* or a tax on buffaloes; *bakri patti* or a tax on sheep. There were also occasional contributions in kind called *fad farmash* such as bullocks' hides, charcoal, hemp, rope, and butter, which were often commuted for fixed money payments; many other sums were paid in commutation for service. All these collections were made by the *patil* in small villages though in towns there was a separate officer to levy those not connected with the land. Government had other sources of revenue included in the *shivaya jama* or extra collections in each village besides those enumerated. The principal were *kamavis gunhegari* or *khand farshi* as fines and forfeitures, *baitanmal* escheats and profit from deposits and temporary sequestrations; *vancharai* grazing fees; *ghaskatai* grass fees; *devashan dabi* derived from offerings to idols; *kharbuj vadi* or a tax on melon gardens in the beds of livers. Besides all this and besides the village expenses or *goon kharch* there were taxes to defray the *mahal*

sadilvar or district expenses not already provided for by government, in which were included many personal expenses of the mamlatdars and a large fund for embezzlement and corruption for the mamlatdar and the courtiers Who befriended him. In addition to all these exactions there were occasional impositions en extraordinary emergencies which were called *jasti patti* or extra cess and *eksali patti* or year cess. If these happened to be continued for several years they ceased to be considered as occasional impositions and fell into the regular *shivaya jama*; but until the introduction of the farming system they were said to have been as rare as the occasions which furnished the pretext for them. Mr. Elphinstone, 25th October 1819 (Ed. 1872,26-27).]

After 1720, in parts of Poona not included in the *svaraj*, [The Poona districts included in the grant of the *svaraj* were Poona, Supa including Baramati, Indapur, and Junnar. Grant Duff's Marathas, 200.] the full rental or *kamal* was divided between the Marathas and the Moghals, or when the Nizam became independent, between the Marathas and the Nizam. To the full rental or *kamal* ten per cent were added for the Maratha *sardeshmukhi* or overlordship. Taking the whole demand including the overlord's charge at 100, ten went to the overlord. Of the remaining ninety, forty-five went to the Moghals and forty-five to the Marathas. The forty-five parts left to; the Moghals were divided into two groups one of $33\frac{3}{4}$ called *jagir*. and the other of $11\frac{1}{4}$ called *faujdari*. The Maratha share like the Moghal share was divided into two, one of $33\frac{3}{4}$ called *babti* or the chief's share, and one of $11\frac{1}{4}$ called *mokasa* or the share given away by the chief. But the divisions of the Maratha share were uncertain, as various claims or *amals* were granted to the Pant Sachiv and other high officers. [East India Papers, IV. 586 - 587.] In other cases, some of the Maratha shares or *babtis* seem to have been added to the original rental or *ain jama*. Thus in an example given by Mr. Chaplin the original *bigha* rate is shown at 8 *mans*. To this $\frac{3}{4}$ ths of a *man* and three *shers* are added for *sardeshmukhi* and for *mahalmajkur*, $\frac{1}{2}$ a *man* for *sahotra*, $\frac{1}{4}$ of a *man* for *hak chauthai*, and $2\frac{1}{4}$ *shers* for *desai*. In addition to the original assessment, extra cesses styled *pattis* were levied, as examples of which Mr. Chaplin cites a butter cess *ghipatti*, a grain cess *galla patti*, and a present or *sadar-bhet*. A house-tax and a female buffalo tax were also levied.

In uplands or *varkas*, where coarse grains were alone grown, an estimate of the crop was made, and from a half to one-third was taken as the government share which was commuted for a money payment at a rate which was established for each village. When rates were fixed

at a *pahani* or survey, the amount of government rent was not changed until a fresh survey was made, [Mr. Chaplin, 20th Aug. 1822, Ed. 1877, 25-27.]

In large villages and in market towns called *peths* and *kasbas* the non-agricultural cesses were collected through the *shets* or leaders of the merchant and craft guilds, who, among the men of their own class, held a position of headship corresponding to the position held by a *patil mukadam* in a village. These headmen distributed the assessment among the members of their caste or trade, according to their knowledge of their circumstances, and with the concurrence of the individuals themselves in full assembly. The government demands on traders and craftsmen were regulated by a reference to what it had been usual to collect. New cesses were always resisted with great clamour, and unless the agent of government could support his demands by the documents of previous years, he had great trouble in levying the cess. [East India Tapers, IV. 588.]

After the introduction of the *kamal* or full settlement about 1760 the revenues were managed by agents who examined the village accounts in detail and settled or were supposed to settle for the revenues according to the actual state of cultivation, or by fixing, with the head of the village for the payment of a stipulated sum for one year. The *kamal* which had taken the place of the *tankha* in the village accounts was the basis of all these settlements. In villages which were just able or were barely able to pay it, the *kamal* was always demanded and became almost a fixed settlement. In villages which had grown richer since the *kamal* was fixed, an additional amount was levied either by guess or after examining the increased cultivation. The additional amount levied in this way was generally a perquisite of the local agents and was entered in the accounts under *mahal majkur* that is sub-divisional charges or under some other suitable head. These agents were spread over the whole Maratha empire and were men of influence and ability. They were of two classes *sarsubhedars* or provincial governors [According to Mr. Elphinstone's Report (25th October 1819, Ed. 1872, 22) on the territories conquered from the Peshwa, the *sarsubhedar* was appointed in Gujarat, Khandesh, the Karnatak, and other remote provinces.] and *subhedars* who corresponded to the English Collectors and had charges yielding a yearly revenue varying from £10,000 to £50,000 (Rs. 1,00,000-Rs. 5,00,000). [Mr. Elphinstone (Report of 25th October 1819, Ed. 1872, 24-26) uses the title *mamlatdar* instead of *subhedar*. He says the officer in charge of a large district was called *mamlatdar*; there was sometimes a provincial governor or *sarsubhedar* between the

mamlatdar and government. Capt. Robertson (May 1820) says that a *subhedar* sometimes farmed part of his charge to a *mamlatdar*. East India Papers, IV. 431.] Neither the *sarsubhedar* nor the *subhedar* was bound to live at the head-quarters of his charge. The management of affairs was usually entrusted to an able and confidential agent or *karbhari*, on whom all the power of the office devolved. When a district chief or *subhedar* was appointed he was furnished with an estimate of the revenues of his district with a list of all the authorized charges including militia or *shibandis*, pensions, religious expenses, and salaries. This estimate was prepared by the secretaries or *daftardars* of the state under the eye of the Peshwa or of his minister. The *tankka*, and after the middle of the eighteenth century the *kamal*, formed the basis of these government estimates, and the changes which had taken place since the introduction of the *kamal* were calculated on the basis of the payments of the last year. The *subhedar's* salary, which was generally calculated at one per cent on the revenue of his charge, or £500 to £600 (Rs. 5000 - 6000) a year, and his establishment were next fixed and the amount deducted. The balance which was left, was divided into several sums which at stated periods were required to be paid into the government treasury at Poona. The *subhedar* had to pay the revenue in advance. He generally had to pay half of the amount at the beginning of the year and the rest by instalments but always in advance. [Mr. Elphinstone, 1819, Ed. 1872, 22-24. Capt. Robertson, 1820, East India Papers IV. 430-434.]

When the account year was closed (4th June), the *subhedar* was obliged to furnish detailed statements of the sums he had realized. If it appeared that he had collected more than had been estimated, the *subhedar* was called on to pay the surplus; if any deficiency had arisen, and if there was no reason to suppose that his accounts were false or his management negligent, he was not obliged to make good the deficiency. As the *subhedar* always paid in advance, at the close of the year there was generally a balance in his favour. Deductions were sometimes made from this balance on the score of embezzlements. The rest was carried over from year to year; the balance was sometimes reduced by partial payments but it was seldom cleared. All balances due to government were exacted unless the *subhedar* could show that the receipts had fallen short of the estimates without any carelessness or dishonesty on his part. [Mr. Elphinstone, 1819, Ed. 1872, 22-24.] The eighteenth century *subhedar* was a government agent whose chief duty in times of peace was to move about his charge redressing grievances, superintending, his officers, and collecting the revenue. He was also a judge and a magistrate, but it

was because he was the collector of the revenue that he held the offices of judge and magistrate.

When the *subhedar* or his representative came to his charge, his first duty was to ascertain with precision how much fresh land had been or was likely to be brought into cultivation in the course of the year. For this purpose he deputed local managers. Those sent to superintend large groups of villages, called a *taraf pargana* or *mahal*, were termed *kamavisdars* or *tarfdars* and those who had charge of a few villages were called *karkuns* and *shekhdars* that is clerks. [East India Papers, IV. 430. According to Mr. Elphinstone (1819, Ed. 1872, 22) the *karkun* had charge of a considerable number of villages and had under him an officer called *shekhdar* who had four or five villages.] The *kamavisdars*, *tarafdars*, *karkuns*, and *shekhdars* were appointed by the *subhedar*. As a check upon them and upon the *subhedar* there was a set of hereditary officials called fee-men or *durakdars* because they were partly paid from local fees. Among these were the *divan* or minister, the *fadnavis* or registrar, and the *potnis* or treasurer, whose duty it was to draw up and sign a yearly statement of the receipts and expenditure in the *subhedar's* office and to report to government any evil practices of the *subhedars* [Mr. Elphinstone, 1819, Edition 1872, 22-24.] There was a second set of hereditary officers who like the *divan* and *fadnavis* were intended to exercise a check on the *subhedar* chiefly in the interest of the landholders. These were the district superintend or *deshmukh* and the district accountant or *deshpande*. Both were generally known by the title of landlords or *zamindars*. The *deshmukh* held for a group of villages much the same position as the village headman held with regard to one village and the position of *deshpande* or group accountant corresponded to the position of the *kulkarni* or village accountant. [Mr. Elphinstone, 1819, Edition 1872, 18-20.] As these hereditary district officers or *zamindars* were considered chiefly to represent the interests of the cultivators, the village headmen looked to them for help in resisting exactions and in obtaining remissions. The *subhedar's* staff of *kamavisdars*, *karkuns*, and *shekhdars*, was employed in framing from actual inspection and with the help of *patil* and *kulkarnis*, a return of the area of rent-alienated land belonging to *inamdars* and others; of the area of arable waste which had been brought under tillage during the year; and of the area of arable which still remained waste. After this examination was completed, the revenue of each village for the current year was calculated from the *miras* land under tillage or which belonged to resident *mirasdars* together with the rents due from short rate or *ukti* and lease or *kauli* land. This estimate was not the final settlement; it was only the basis on which the dates of paying certain sums were

fixed, until at the close of the year the actual government demand was finally determined. Still the estimate was always near enough to the final assessment to insert it in the *patil's* agreement to pay the village revenue. When the inspectors of the cultivation were ready to submit their labours, it was usual for the *subhedar* to visit each village group called *taraf mahal* or *pargana*. The *patils* of the group met at his office, and after receiving a general assurance that the *subhedar* would not take more than was usual, gave a written engagement specifying the quantity of cultivated land, the area of waste, and the area granted to new settlers, and promised to realize and to pay the revenue and received a counterpart from the *subhedar*. On their return to their villages the *patils* began to collect the revenue. If any crops failed after the estimate was framed, the failure was taken into account in fixing the final demand. It was understood by government that, unless he farmed the revenues for the year, the *patil* was purely a government agent, and that neither he nor the *kulkarni* was entitled to any advantage beyond their established rights and salaries. For the same reason if the amount received from a village fell short of the estimate, no attempt was made to recover the balance from the headman or from the accountant. [East India Papers, IV. 431.] The payments of revenue were generally in three instalments, one corresponding with the early or monsoon crops or *kharif* which was due about November-December, a second corresponding to the cold weather or *rabi* crops which was due in January and February, a third corresponding to the hot weather or *tusar* crops which was due in February and March, and a fourth which was sometimes levied about March-April to recover outstanding balances. [Mr. Elphinstone, 1819, Edition 1872, 24-26.] In October or November when the early or principal harvest was nearly ready, the *subhedar* moved through his charge. The headmen and accountants, who were generally accompanied and supported by some of the leading landholders, laid before him the papers showing the old settlement rates, apparently both Malik Ambar's *tankha* and the *kamal* of 1760 together with the latest year's payments or *vusul akar*, and such a statement of extra items as gave a full view of the state of the village. The minute knowledge which the *subhedar's* staff of clerks called *karkuna* or *shekhdars* had of the villages under their charge, enabled the *subhedar* to check the correctness of the village accounts. Some discussion generally followed in which the villagers looked to the hereditary district officers the *deshmukh* and the *deshpande* to help them to gain any remission or concession which they thought they required. The discussion generally ended in the preparation of a final rent statement or *jamabandi patla* to which the *patil* gave a formal agreement. If the *patil* refused to accept the conditions offered by the *subhedar*, an officer was sent to examine the state of the village crops.

If even then no agreement could be made, the *subhedar*, though this rarely happened in Poona, arranged to take one-half of the crop. The practice of keeping the village crops under guard until the settlement was made, though unknown immediately round Poona, was common. When one of the three revenue instalments fell due, the *subhedar's* clerk sent a messenger to each village to help the *patil*. The Mhar summoned the landholders who paid their rent to the *patil* in the presence of the village goldsmith or *potdar* who assayed and stamped the money, and of the accountant who granted a receipt. When the instalment was collected, the headman sent it by the Mhar under charge of the under-*patil* or *chaughula* with a letter to the *deshmukh* and another to the *mamlatdar*. At the *mamlatdar's* office the money was again tested by a moneychanger and if any of it was found to be bad, the village goldsmith or *potdar* was made responsible. When the money was accepted the *subhedar* granted a receipt. When the account year closed these receipts were resumed and the *patil* was furnished with a statement showing the amount of revenue fixed for the year, the dates of its realization, and the balance, if any, outstanding. This statement was ratified by the *subhedar* in the usual way.

A *subhedar* held his appointment for only one year. His reappointment to his charge depended chiefly on his influence at court and they generally had sufficient address to hold their charge for a considerable period in some cases, according to Mr. Elphinstone, for as much as fifty years. [25th Oct. 1819, Ed. 1872, 24,] Though the *subhedar's* nominal pay was seldom more than £500 (Rs.5000) or £600 (Rs.6000) a year, and though the system of payment in advance seemed to make any considerable profit impossible, the *subhedars* valued their posts and clung to them as long as they could. They generally succeeded in bringing over to their side both the district hereditary officers who were supposed to represent the people, and the *divan*, *fadnavis*, and *potdar*, who were supposed to represent the government; and, to answer appeals and complaints to head-quarters which under good rulers were encouraged and attended to, the *subhedar* had an agent or *vakil* at court. The *subhedars* added to their income by concealing unusual receipts, by making false entries of remissions, and false musters and by holding back allowances and pensions. Their chief source of profit was under the head of *sadilvar* that is extra or contingent charges. As a portion of the money spent under this head went to bribe the ministers and auditors, the details were not closely examined and the *subhedar* generally succeeded in keeping more to himself than he paid in bribes. [Mr. Elphinstone, 1819, Ed. 1872, 23-24.] Some *subhedars* let out a few of their *mahals*

in farms to persons styled *mamlatdars*. They were vested with all the *subhedar's* magisterial powers except that they could not pass sentence in capital or other heinous crimes. When the account year came to an end the *patil* had to continue to perform his duties with vigour without receiving any orders from the *subhedar*. It made no difference to the *patil* whether the *subhedar* was continued in office or a new man was appointed. Sometimes two or three months of a new account year passed before the *patils* knew who was to be their superior for the coming year. It was necessary that the, *patil* should take this independent action, because when a *subhedar* was changed, the former holder of the office was naturally remiss for some time before he left and his successor was at first ignorant of his charge. Considerable liberty was therefore left to the *patils* in using their discretion as to the means best suited to stimulate the cultivators to industry. Except in years of famine, pestilence, or war, the headman was generally able to induce the people again to take the land which they had tilled in the previous year. Those who were not *mirasdars* or hereditary holders and had once tilled a field, were generally willing to till it again so long as they had a sufficient stock of cattle. At the beginning of the year (June 5th) the *patil's* chief care was to encourage hereditary holders to invest their gains in bringing arable waste under tillage; to obtain new temporary holders or *upris* and to help the old temporary holders to free themselves from the pressure of creditors and to prevent the sale of their cattle and goods or other extreme measures which might force them to leave the village. With this object the *patil* went to the creditors and persuaded them that if the debtor had time he would pay what he owed; or he promised to lay the debtor's case before the *subhedar* and obtained from him some advance or *takavi*. To tempt hereditary holders to till arable waste the headman undertook to procure a lease in which, according to the length of time the land had lain waste, the cultivator was allowed part remission of rent during terms varying from four to ten years.

[Generally when the land had lain waste for fifteen years an increasing lease or a written *istava kaul* was granted for ten years. Under these leases no rent was charged for the first year, a ninth part of the full rent was charged in the second year, two-ninths in the third year, three-ninths in the fourth year, and so on till the tenth year when the full rent was levied. Land which had been waste for more than six and was than fifteen years was offered on a lease of six years, free in the first year and Charged a fifth in the second, two-fifths in the third, and so on till in the sixth year the full rent was levied. Land which had lain waste less than six and more than two years was given on a lease of four years with a gradually increasing rental. East India Papers, IV. 432.] Holders of these leases were free from the demands, which the

hereditary holders generally had to pay as donations to holy men especially *gosavis*, and contributions to travelling tumblers and musicians. The headmen expected that a man who had enjoyed a rising lease would continue to hold the land at least for a year or two after the full rent became due. During those years they continued free from the extra levies to which the regular holders of village lands were liable. Besides the village rent the *patil* had to see that all payments in kind to government were duly made and that the village and group officers received their dues. If a cultivator either refused or evaded payment, the *patil* called on the government messenger to interfere. The messenger heard what the defaulter had to say. If he thought the headman was acting unjustly or that the defaulter was really unable to pay, he took him to the *subhedar* who, if the defaulter's explanation satisfied him, granted him a complete or a partial remission. If the messenger thought the landholder had no good reason for refusing to pay, he would punish him by making him sit in the sun, by keeping him fasting, or by placing him in durance in the village guard-house or *chavdi*. If this treatment failed to make the defaulter pay, the messenger took him to the *mamlatdar*, who if he pleased might inflict slight corporal punishment, handing him roughly, pulling and pushing him about, and thumping him on the sides and back. If the *mamlatdar* was no more successful than the messenger, the defaulter was reported to the *subhedar* who ordered that his bullocks and property, and, if he was a *mirasdar* and the case was extreme, his land should be attached. If the amount realized from the sale was less than the sum he owed, the debtor was thrown into prison with fetters on his legs until it was fully ascertained that he had no other resources, when he was set at liberty.

If a *patil* proved refractory and refused to obey the summons of the local officer, the *subhedar* sent a messenger or a horseman to the village with a written order to the *patil* to pay the bearer a certain sum every day varying from 2s. to £5 (Rs.1-50) in proportion to the *patil's* wealth or to the gravity of his offence. If a *patil* persisted in not obeying the summons, and also in refusing to pay the fine, militia or *shibandis* were sent to bring him by force and he was then fined. Rigorous treatment either of a landholder or of a headman was seldom necessary in recovering the regular revenue. It was more employed in exacting extraordinary taxes [Mr. Elphinstone, 1819, Edition 1872, 22-26.] The *patil* was bound to recover within a year all advances that is *tagai* or *takavi* which the *subhedar* had made. These advances were never made to the landholders direct. They were made through the *patil* and at his request. And though the persons to whom the advances were made were still insolvent and required further help

from government, the money was generally resumed at the close of a year and if the *subhedar* chose, a fresh advance was made for the new year. The *patil* frequently furnished cultivators with means of recovering themselves by lending them money; if the cultivator was unworthy of this indulgence and failed to pay back the advance the *patil* was bound to make it good. Under this system of land management distraints were rare. If a temporary holder or *upri* led and the rest of the villagers would not make good what he owed, his bullocks were sold. Government never sold a *mirasdar's* field or his bullocks though a *mirasdar's* relations might occasionally force him to part with some of his property to make good sums which they had paid to government on his account. [East India Papers, IV. 526]

There were local varieties in the system of land management, and conditions varied with the character of the times and the character of the Peshwas. Till the beginning of British rule the Peshwa Madhavrav (1761-1772) was remembered with affection for his moderation, and Sakharam Bapu and Nana Fadnavis with respect for their masterful knowledge tempered with justice and kindness. [Capt. Robertson, Collector, 1st May 1820, East India Papers IV. 427-434; 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 479-508.] The cultivators were said to have been in a state of comparative prosperity under Peshwa Madhavrav Narayan (1774-1796) and traces of former prosperity remained. In those times the government collected its revenues through its own agents; the maximum of the land-tax was fixed, and only charged on lands actually under tillage; while remissions were made in bad seasons, and in cases of great distress sums of money were advanced without interest or on a moderate interest. The revenues fluctuated according to the prosperity of the country. [Loni Account, 1820, Trans. Bom. Lit. Soc. III. 227.]

Between 1772 and 1800, the years of the administration of Nana Fadnavis, the management of the Peshwa's land revenue was perhaps more efficient than at any other time. The *mamlatdars* or *subhedars* were chosen from families of character and respectability. The office was given to trustworthy persons without any special agreement as to the amount of revenue their charge would supply. On their appointment they sometimes though not always paid a portion of the revenue to the treasury. Each received a deed or *sanad* enjoining the faithful discharge of their duty, and directing them to adopt as a guide a separate account of the assets and expenses of their charge. The deed or *sanad* also instructed them to ascertain what collections of the current year their predecessors had made, to credit them for the charges in proportion to the period they were in office, and to realize

the balance after taking the late *mamlatdar's* acknowledgment of the amount outstanding. At the same time the former *mamlatdar* received an order directing him to give over to his successor the charge of the district with all its forts, garrisons, and magazines, to transfer to him all collections after deducting allowances or charges up to the period of his removal, and to certify to him the amount of arrears due, whether from the district land revenue or from other sources. The commandants of the forts were also ordered to place themselves under the direction of the new *mamlatdar*, and the hereditary district officers or *zamindars* were enjoined to acquaint the new *mamlatdar* with the resources of their charge. If his charge was important and contained a fort, the yearly pay and allowances of a *mamlatdar* amounted to about £430 (Rs. 4300). If his charge was rich but corbained no fort his pay and allowances amounted to about £240 (Rs. 2400). [The pay and allowances of the Shivner charge which had a fort and yielded a yearly revenue of £10,200 (Rs. 1,02,000) amounted to Rs.4279. The details were Pay Rs. 1000, a palanquin Rs. 800, oil Rs. 18, palanquin furniture Rs. 63, cloth Rs. 40, a house allowance or *karkuni* from the secret service or *antast* fund Rs. 2,358; total Rs. 4279. The details for Junnar, which had no fort and yielded £11,574 (Rs. 1,15,740), were Pay Rs. 2000, clothes Rs.21, palanquin furniture Rs. 75, firewood Rs.275, total Rs. 2371. Appendix to Mr. Chaplin's Report, 20th August 1822 Edition 1877, 145-146, East India Papers IV. 625.] When a new *mamlatdar* came to his charge, if it was an important charge, he found two sets pf local hereditary officials, one set called feemen or *darakdars* [The fee-men or *darakdars* were generally though not always hereditary. Mr. Elphinstone, 1819, Edition 1872, 22.] because they were partly paid by local fees, some of whom were district and others were fort officers, and another set known as landlords or *zamindars*, the hereditary superintendent or *deshmukh* and the hereditary accountant or *deshpande* of a group of villages. [In some tracts there were no hereditary district officers. In such places their duties were performed by the fee-officials or *darakdars*. Appendix to Mr. Chaplin's Report of 1822, Edition 1877, 156; East India Papers IV. 631.] None of these hereditary officers could be dismissed by the *mamlatdar*, nor could he employ them on any duties except those which were specially prescribed to them. The fee-men or *darakdars* both of village groups and of forts received their pay and allowances in the same way as the *mamlatdar*. They were of three classes *subha-nisbati* or provincial, *mahal* or divisional, and *killedari* or belonging to forts; in the provincial staff there were besides twelve *karkuns* or clerks, eight members, the minister or *divan*, the auditor or *mujumdar*, the registrar or *fadnavis*, the secretary or *daftardar*, the treasurer or *potnis*, the assay clerk or *potdar*, the petty registrar or

sabhasad, and the under secretary or *chitnis*. Of the district or provincial fee-men or *darakdars* the chief was the minister or *divan* who as chief factor under the *mamlatdar* counter-signed all letters and orders. He received about £59 (Rs. 590) a year of which £35 (Rs. 350) were pay and £24 (Rs. 240) expenses or *karkuni*. The auditor or *mujumdar* approved deeds and accounts before they went to the registrar or *fadnavis*. He received £49 (Rs. 490) of which £25 (Rs. 250) were pay and £24 (Rs. 240) were expenses. The registrar or *fadnavis* dated all deeds and orders, prepared a daily waste book, fastened notes to the money-bags dated the yearly village rent settlement, and brought the books to head-quarters. He received £61 (Rs. 610) of which £20 (Rs. 200) were pay, £9 (Rs. 90) allowances for assistants, and £32 (Rs. 320) expenses. The secretary or *daftardar*, from the registrar's waste book, made up the ledger and sent a monthly abstract to head-quarters. He received £28 (Rs. 280) of which £15 (Rs. 150) were pay, £1 (Rs. 10) for clothes, and £12 (Rs. 120) for expenses. The treasurer or *potnis* kept a record of collections and the balance of cash, and helped in writing the waste book and the ledger. He received £15 (Rs. 150) of which £13 (Rs. 130) were pay and £2 (Rs. 20) expenses. The assay-clerk or *potdar*, of whom there were always two, examined the coins. They received £21 (Rs. 210) between them. The petty registrar or *sabhasad* kept a register of petty suits and reported them to the *mamlatdar*. He received £25 (Rs. 250). The under-secretary or *chitnis* wrote and answered despatches. He received £17 (Rs. 170) of which £12 (Rs. 120) were pay, £1 (Rs. 10) were for clothes, and £4 (Rs. 40) were expenses. The twelve clerks or *karkuns* had an average pay of £20 (Rs. 200). If any of them went to head-quarters for the audit of accounts he was paid £35 (Rs. 350) extra. Each division or village group, called *mahal* or *taraf*, had three revenue officers, a deputy or *havaladar*, an auditor or *mujumdar*, and a registrar or *fadnavis*, and four militia or *shibandi* officers, the *asham-navis*, the registrar or *asham-fadnavis*, the roll-master or *haziri-navis*, and the secretary or *asham-daftardar*. Of the three revenue officers the deputy or *havaladar* made and remitted collections and inquired into petty complaints. Besides an uncertain sum for expenses or *karkuni*, he received £29 (Rs. 290) of which £20 (Rs. 200) were pay, £5 (Rs. 50) were for oil, £2 6s. (Rs. 23) for an assistant, and £1 14s. (Rs. 17) for clothes. The divisional auditor or *mahal mujumdar* had on a small scale the same duties as the provincial auditor. He received about £35 (Rs. 350) of which £10 (Rs. 100) were pay, and about £25 (Rs. 250) allowances. The divisional registrar or *mahal fadnavis* had duties corresponding to the duties of the provincial registrar. He received about £37 (Rs. 370) of which £12 (Rs. 120) were pay, and about £25 (Rs. 250) were allowances. Of the four militia or *shibandi* officers the

asham-navis kept a roll showing each man's name family name and village, his arms, and his pay. He received £53 (Rs. 530) of which. £25 (Rs. 250) were pay, £7 (Rs. 70) were for oil and an umbrella, and £21 (Rs. 210) for expenses. The militia registrar or *asham-fadnavis* kept the accounts, and, if there was no muster-master, wrote out the musters. He received £30 (Rs. 300) of which £20 (Rs. 200) were for pay and £10 (Rs. 100) for expenses. The muster-master or *haziri-navis* mustered and made out the abstracts. The military secretary or *asham-daftardar* made out the militia ledger-book. He received £27 (Rs. 270) of which £15 (Rs. 150) were for pay and £12 (Rs. 120) for expenses. To all forts of any size a staff of six civil officials was attached; a *havaladar* or deputy-commandant, a *sarnaubat* or assistant deputy, an accountant or *salmis*, a registrar or *fadnavis*, a storekeeper or *fadnavis* of stores, and a clerk or *karkun*. The deputy commandant or *havaladar*. arranged all guards and patrols and gave leave to people to go out and in. He received £36 (Rs. 360) as pay. The assistant deputy or *sarnaubat* was under the deputy and superintended public works: he received £21 (Rs. 210) pay. The accountant or *sabnis* wrote out the garrison accounts and reported enlistments and discharges. His pay was £22 (Rs. 220). The registrar or *fadnavis* dated and certified the accounts and kept a record of receipts and payments. He received. £19 (Rs. 190). A storekeeper or *fadnavis* of stores was sometimes kept on £16 (Rs.. 160). The writer was paid £10 (Rs. 100). In addition to their pay and allowances these fee-men or *darakdars* had, according to their rank, a following of a certain number of militiamen, and those who were connected with forts made percentages in supplying wood, betel, and other articles.

When a *mamlatdar* was appointed to a new district he either went himself or sent his agent or *karbhari* to take over charge from the former *mamlatdar*. He next summoned the district hereditary officers or *zamindars* and the heads of villages, each of whom, according to rule, from the *deshmukh* or district superintendent and the *deshpande* or the district accountant to the *shet mahajan* or alderman and the village *mukadam* or headman, paid his respects and presented the new *mamlatdar* with an offering or *nazar*. At this reception the *mamlatdar* delivered to the district officers the head-quarters' mandate enjoining obedience to his authority. When the reception was over the *mamlatdar* transacted business in office which was usually attended by the district superintendents and accountants or by their deputies. The district superintendent or *deshmukh* and his people helped in the general management of the revenue and the district accountant or *deshpande* furnished records and kept an account of the collections. [Under Nana Fadnavis the duties of the district accountant

or *deshpande* were to take from each village accountant in his charge a statement of the village areas and the rates of assessment in his village and from these returns to draw up comparative abstracts showing how the details of the current year differed from those of the year before. These differences he had to explain to the *mamlatdar*. East India Papal IV. 631.] His clerk wrote all requisitions to the villagers which were dated and signed in due form by some of the fee-men or *darakdars* and confirmed by the *mamlatdar*. When the heads of villages were present an account of each village was drawn up and signed by the headman and accountant, and countersigned by the outgoing *mamlatdar*. When this was finished a statement of the actuals of the past year was made ready and sent to head-quarters by the *mamlatdar's* agent. Next an estimate or *ajmas* of the next year's resources was prepared. The traditional total rental whether Malik Ambar's *tankha* or the Maratha *kamal* was entered, and from it was taken the value of all rent-grants or *inams*. The balance formed the *ain jama* or regular receipts as opposed to *shivaya* or extras which included customs, farms, fines, and presents.

Under the head of charges came permanent military and other allowances and revenue assignments, cost of establishments, pay of militia and messengers, and religious and charitable allowances. The balance was then struck and divided into two parts, one to be forwarded to government the other to be kept in hand. The amount to be sent to government was fixed with reference to the remittances of the previous year with such changes as the character of the season made necessary. Part of the amount due to government was usually paid in advance in July or August. The rest was divided into three or four instalments, the payment of which was not very uniform. The share of the revenue which was kept in hand was on account of interest due by government on advances, premium paid for bills of exchange or remittances, new: allowances granted during the year, and remissions for destruction of crops or other contingencies. The *mamlatdar* was enjoined not to hold back any items which could be recovered and which belonged to government and to take care that all produce sales were made at the season when the best prices were likely to be secured After these formalities the estimate was approved by the minister and confirmed by the Peshwa's sign manual. A copy was then delivered to the *mamlatdar*. In some parts of the district especially near the Nizam's possessions, the lands were farmed from year to year. Abatements were granted to the farmer on account of the charges of the government officers and of charitable and religious allowances. He was made to promise that he would keep back none of these payments, and an assurance was given that in the event of any

calamity he should receive the usual consideration. As regards the relations of the *mamlatdars* with the people the *mamlatdars* managed their charges through the hereditary officers and the village headmen and accountants. In each village the *mamlatdar* examined the *jamin jhada* or register of lands, the receipts and charges of the past year, and the present state of cultivation. He called for accounts of the particular fields under tillage, ascertained whether they grew dry-crop garden produce or rice, whether they were tilled by hereditary or by temporary holders, whether they were held at a fixed contract rent or on a lease, he learned from the village and district officers what area of arable land had become fallow and why it had become fallow. If necessary he appointed agents to promote cultivation in particular villages and empowered these agents to grant leases for the tillage of waste lands, or made such concessions to the heads of villages as in their opinion would persuade the people to enlarge the area under tillage. He also by advances or remissions helped the people to buy seed or cattle. In fixing the rent settlement or *jamabandi* of a village, particulars of the cultivation were entered and if necessary checked by an actual inspection of the lands. With the help of the headmen and the accountants the whole of the village lands were entered and all grants were deducted. The rest was divided into waste and cultivated, and the cultivated area was divided into dry-land and garden. It was stated whether the garden was watered by wells or by watercourses, and whether it was held by hereditary or by temporary husbandmen. The details, the rates of assessment, and the produce of the whole, were shewn, together with the items of the different cesses. From the gross assets or *jama* were taken the amounts due to district and village officers, the village charges and the permanent assignments on the village revenue. The balance formed the settlement or *beriz*. From the settlement in some cases a sum for official expenses or *darbar kharch* was taken, and in others for grantees and alienees to whom certain shares in the village revenue had been assigned. When all these demands were adjusted what was left was sent to the public treasury by instalments in November December and January. The instalments seem not to have been fixed according to any uniform scale. They depended a good deal on the agreement between the *mamlatdar* and the villagers, and on the time at which the settlement was concluded. If the settlement was not made till the year was far advanced, the same instalments were paid as in the past season and the amount was adjusted when the rent settlement was ended.

The following were the proportions in which rents were collected at different dates. In villages which had both an early or *khariif* and a late or *rabi* crop, the first or *Dasara* instalment was levied in October or

Ashvin. The amount was small. In *Kartik* that is November twenty-five per cent of the revenue became payable; in January-February twenty-five per cent more; in February-March twenty-five per cent, and the remainder in March-April. In villages which had a small early harvest and a heavy late harvest, the early instalments were lightened and about one-half was kept for the March-April payment. On the other hand in villages whose harvest was chiefly of early crops the early instalments were the heaviest. The village collections were generally begun eight or ten days before the date fixed for sending the instalment to the *mamlatdar*. If from special circumstances rents were difficult to realize, the *mamlatdar* forbore from pressing the people. Village rents were often partly paid by orders or *havalas* on bankers; similarly the husbandmen paid the headman by orders; and so general was this practice that not more than one-fourth of the revenue was paid directly in cash.

Though as a rule the distribution of the assessment among the villages was made by the headman and village accountant, the *mamlatdar*, if he doubted either the honesty or the authority of the headman, might distribute the assessment among the villagers either himself or by an agent. All local coins were accepted in payment of the government dues. But if they fell much below the proper value an additional cess or allowance was levied. In collecting arrears considerable indulgence was shewn. If the exaction of arrears was likely to cripple a husbandman so that he could not till his land, the demand was put off till the next year or it was cancelled. It was the practice for the *mamlatdar* to grant receipts for all formal payments, but as a rule the village accountants gave the husbandmen no receipts. [Appendix to Mr. Chaplin's Report, 20th August 1822 (Ed. 1877), 144-162. East India Papers, IV. 624-633, 636.] At the end of the year, after all the collections had been made, the *mamlatdar* delivered to the villagers a demand collection and balance account showing the original rent settlement, including all branches of revenue both in money and kind except the secret-service or *antast* items, the remittances that had been made to his treasury, and the charges that were admitted. In exchange for this he took a voucher, in the handwriting of the village accountant and signed by the headman, of the actual receipts and disbursements, together with a copy of the *vasul baki* or balance account. All vouchers given in acknowledgment of remittances were then received back by the *mamlatdar* and deposited among the divisional records. The chief items of extra revenue or *shivaya 'jama* which the *mamlatdar* entered in the public accounts were: a marriage tax or *lagan takka*, a remarriage tax or *pat dam*, *chithi masala*, *khand gunhegari*, *nazar*, *harki*, *karz chauthai*, and *baitanmal*.

At the close of the year, either the *mamlatdar* himself or his registrar or secretary delivered the following accounts into head quarters: the *mahalki jhadti* or rough statement of receipts and charges; the rent settlement of each village with the signatures of the hereditary district officers; a muster-roll of the militia and the receipts for their pay; an establishment list or *moin jabta* with a record of absentees; a statement of receipts of pensions and allowances; a customs contract; a list of articles supplied to forts; and a statement of official expenses or *darbar kharch*.

At Lead-quarters these accounts were compared with the estimate which had been framed at the beginning of the year. If the statements agreed and the full revenue was realized, the chief clerk read them over to the Peshwa and they were passed. If there were any differences in detail between the estimates and the actuals a *taleband* or variation statement was prepared. If the variations resulted in a failure of revenue, unless the *mamlatdar* was a confidential servant, an inquiry was made and if necessary the *mamlatdar* was called on to pay the differences. If a *mamlatdar*, by paying the revenue in advance and failing to realize the whole of it or by being forced to engage a special body of militiamen to keep the peace, spent more than he had received, subject to certain small deductions, the government granted interest at twelve per cent a year on the amount which stood at the *mamlatdar's* credit.

The particular points to which the attention of the head-quarter officers was directed, were to collect from time to time balances due by *mamlatdars*; to inquire into and redress complaints; to make arrangements for establishing the authority of government in any district where it might be disputed; and to superintend the *mamlatdar's* administration of civil and criminal justice, who generally inflicted all sort of capital punishments without a reference to headquarters.

Mamlatdars were seldom removed for petty faults. Many of them remained thirty or forty years in the charge, and on their death were succeeded by their sons. So too the feemen or *darakdars* were not removable except for misconduct and the office frequently passed from father to son. If a charge of misconduct was brought against a *mamlatdar* the accuser was required to give security that he would prove the charge. If he proved the charge he was rewarded; if the charge seemed to have been honestly brought and the *mamlatdar's* conduct seemed doubtful, the informer was allowed to go without punishment; and if the charge seemed groundless, the informer

forfeited his security. Charges of misconduct were rare. The Marathas disliked informers and made sport of them calling them *Taskar Pant* or Mr. Thief.

The revenue functions of the *mamlatdars* differ little from those which have been already described as belonging to the time before Nana Fadnavis. The *mamlatdars* were expected to promote the improvement of the country, to protect all classes from oppression, to dispense civil justice, and to superintend the police. They were not forbidden from taking any advantage they could from trade or from lending money at interest, and they were often connected with the moneylenders who advanced part of the revenues of villages. Such a connection must often have been prejudicial to the people, but under Nana's management abuses were restrained within narrow limits. The village headmen and accountants had the immediate duty of superintending the cultivation and of seeing that it was kept up to the usual standard. If there was any falling off owing to the death or emigration of hereditary holders, the other hereditary holders were expected to cultivate the fields which were given up. If the falling off was due to the poverty of temporary holders, it was the duty of the headman to persuade others to take the vacant land. To help him to persuade people to take up waste; the headman was allowed to make trifling abatements of rent. But if any great or unusual reduction was required, he had to apply for sanction to the *mamlatdar*. The headmen and accountant furnished all the village accounts to the *mamlatdar*, sometime through the hereditary district officers and sometimes direct. In country towns the collection of the house and other non-agricultural cesses was entrusted to aldermen and heads of the communities of merchants and craftsmen. In the smaller towns these collections were made by the village headman and accountant.

The rent settlement or *jamabandi* of the villages was fixed by the *mamlatdars*. In making the individual settlement the village headmen added to the rent settlement the sum deducted in the *tharav yadi* on account of village charges and other expenses, and distributed the whole among the people. [In some villages the village charges were kept separate. East India Papers, Iv.635.] Any deficiency that might arise in distributing the settlement was made good by a second levy or *patti*. If even after the second levy a deficiency remained the amount was raised by a loan from a moneylender. The loan was sometimes repaid by a special cess or *patti* in the following year, or if this was likely to cause distress, the *mamlatdar* got leave to remit an equal amount to enable the villagers to liquidate the debt. If the loan was large, this was the usual course; if it was small, the inhabitants

themselves usually agreed to make it good The first instalments of the revenue were collected before any settlement was made, according to the individual payments of the preceding year, and considerable indulgence was shown in exacting balances whose realization was likely to cause severe pressure, As regards the local charges on the village revenue the amounts once sanctioned Were continued without fresh instructions until resumed The permanent yearly village charges were also incurred on the authority of the headman and accountant, but excessive disbursement were, when ascertained, retrenched and brought to the public account. If a village fell into arrears, lands thrown up by the holder or left waste were sometimes sold and transferred on hereditary tenure to other holders. Petty quarrels among the villagers as far as possible were settled by the headmen and accountants. Except when they were serious and the *mamlatdar's* authority was required, disputes about land were settled on the spot. The petty village officers or *balutidars* received their usual fees from the villagers for whom they performed the customary services. These petty officers could not be removed by the headman and accountant. If they were guilty of grave misconduct, the matter was represented to the *mamlatdar* who punished or dismisses the offenders. At the end of the year when the headman and accountant rendered returns of receipts and charges and received a balance or *jama vasul baki* statement, the *mamlatdar* presented them with an honorary dress or *shirpav*. It was not usual for the headman and accountant to grant landholders any receipt for their payments. The relations between them made such a security unnecessary. [Appendix to Mr. Chaplin's Report of 20th August 1822, Ed. 1877, 144-162 and East India Papers IV. 624-636.]

Under the system which has been here described, with, as a rule, men of ability and position in charge of the same districts for long terms of years, and with the provision that the weight of all general calamities and of most minor losses should fall on the government and not on the people, in spite of the terrible period of distress caused by the famine of 1792, the bulk of the landholders remained in their hereditary estates till the close of the eighteenth century. [Captain Robertson, 1st May 1820, East India Papers IV. 434.]

Early in the nineteenth century the wasting of the district by Holkar in 1802 and the failure of the late rains of 1803 caused grievous distress. For a year or two the assessment fell to about one-fourth. [Bom. Gov. Rev. Rec. 698 of 1836, 85.] At the close of 1802 when the disorders among the Marathas had reduced the country to a desert, the Peshwa saved his possessions from future desolation by placing himself under

British protection. So great was the security which accompanied the transfer of the sovereign rights to the British, that, within a few years, the Peshwa was able to collect as large a revenue as before the destruction of 1802 and 1803. [Bom. Gov. Rev. Rec. 698 of 1836, 85. The incursions of plundering armies and a succession of calamitous seasons had nearly depopulated the Indapur sub-division When in 1807 the villages were re-established on *kaul* or *istava* leases providing for a yearly increase of revenue till the ninth year when the full *tankha* (*kamal*?) rates were to be taken. This settlement only partially succeeded. A further term was added to the leases during the currency of which the war broke out and the Deccan fell into the hands of the British. Bom. Gov. Rev. Rec. 666 of 1835, 6-7.] Partly apparently from the disordered state into which the miseries of 1803 had thrown the management of the country; partly perhaps because the support of the British to a great extent made it indifferent to him whether the people were contented or were discontented, Bajirav gave up the former attempt to improve the country by securing men of honour and position to administer its revenues, and to prevent their misconduct by complicated checks. In its stead he introduced the practice of farming the revenue for short terms to the highest bidder. [Soon after Bajirav became Peshwa, the system of collecting revenue through government agents was laid aside and that of farming the revenues from year to year to the highest bidder was adopted. All intercourse between the government and the landholders ceased, and the landholders fell into the hands of a Bet of greedy and unprincipled contractors. The consequences were certain. The contractors made the most of their leases by every temporary experiment; the husbandmen were urged to cultivate beyond their means, and taxed for lands not even cultivated; remissions were not made in times of calamity. The people became loud in their complaints against the prince who thus abandoned them; and ultimately there were frequent defalcations of revenue, from the contractors being unable to realize their rents. Dr. Coats' Account of Loni, 1820, Trans. Bom. Lit. Soc. III. 227.] The new system had the two great advantages of relieving the central government of a great mass of labour and responsibility, and of transferring a great part of the loss from failure of crops and other causes from the state to the revenue contractor and to the people. According to Mr. Elphinstone the changes introduced by farming the revenues were aggravations of the evils of the former system rather than complete innovations. The office of *mamlatdar*, instead of being conferred as a favour on a person of experience and probity, was put to auction among the Peshwa's attendants, who were encouraged to bid, and were sometimes disgraced if they were backward in bidding. Next year the same operation was repeated and the district was

transferred to a higher bidder. The revenue farmer had no time for inquiry, and no motive for forbearance. He let out his district at an enhanced rate to under-farmers who repeated the process until the farming came down to the village headmen. If a village headman farmed his own village, he became absolute master of every one in it. No complaints were listened to and the *mamlatdar* who was formerly a check on the headman now urged him to greater exactions. If the headman refused to farm the village at the rate proposed, the case of the villagers was perhaps worse, as the *mamlatdar's* own officers levied the sum required with less knowledge and less pity. In either case the actual state of cultivation was disregarded. A man's means of paying, not the land he held, fixed the amount at which he was assessed. No moderation was shown in levying the sum fixed. Every pretext for fine and forfeiture, every means of rigour and confiscation, were employed to squeeze the people to the utmost before the day when the *mamlatdar* had to give up his charge. Amidst all this violence a regular account was prepared, as if a most deliberate settlement had been made. In this fictitious account the collections were always underrated, as this enabled the headman to impose on the next *mamlatdar*, and enabled the outgoing *mamlatdar* to deceive the government and his fellows. The new *mamlatdar* pretended to be deceived; he agreed to the most moderate terms, and except making advances, gave every encouragement to increase the cultivation. When the crops were in the ground, or when the end of his term drew near, he threw off the mask, and plundered like his predecessor. In consequence of this, the assessment of the land, being proposed early in the season would be made with some reference to former practice, and contingent and other charges would accumulate, until the *mamlatdar* came to make up his accounts. Then his exactions were most severe. He had a fixed sum to complete, and if the collections fell short of the sum, he portioned the balance among the exhausted villages, imposed an extra assessment, and left the headman to extort it on whatever pretence and by whatever means he thought proper [Mr. Elphinstone, 1819, Ed. 1872, 27-28, East India Papers IV. 166-167.] As the villagers were very often unable, with any amount of pressure, to pay the sums which were demanded of them, the payments were usually made by drafts on the moneylender, who had the chief banking business in the village. Little was collected in cash. The moneylender stood security and in return was allowed to collect the revenue and his own debts together. [Col. S. Anderson in Deccan Riots Commissioners' Report, 1875. para 32 pp. 17-18.]

The section of the people who suffered chiefly under the farming system were the hereditary and other well-to-do holders. In spite of

the disorders of the eighteenth century and of the famine of 1792, at the close of the century the bulk of the *mirasdars* were still in possession of their hereditary holdings. But under Bajirav's forming system, when the amount of his collections fell short of what he had undertaken to pay, the farmer turned on the hereditary holders and robbed them with such ingenious greed that many left their lands and all were brought to the brink of ruin. [East India Papers, IV. 434.] In spite of the exactions of the farmers which reduced almost all the landholders of the district to one level, so great was the advantage of the security ensured by the British protectorate that in the thirteen years before the overthrow of the Peshwa in 1817 the district increased greatly in wealth. Bajirav, whose chief interest in government was to collect money, amassed a sum estimated at £5,000,000 (Rs. 5 *krors*). And the state of the bulk of the people is said to have improved from what it was at the beginning of the century. They had much wealth in flocks and herds which were less exposed to the greed of the revenue farmer than the outturn of their fields. [Col. S. Anderson in Deccan Riots Commissioners' Report, 1875, para 32 pp. 17-18. At Bajirav's restoration the country was laid waste by war and famine, the people were reduced to misery, and the government derived scarcely any revenue from its lands. Since then, in spite of the farming system and the exactions of Bajirav's officers, the country has completely recovered, through the protection afforded it by the British Government; and Bajirav has accumulated those treasures which he is now employing against his benefactors. The British Government not only protected the Peshwa's own possessions, but maintained his rights abroad.' Mr. Elphinstone's Satara Proclamation, 1818, in Forrest's Elphinstone, 1884, 53.]

SECTION III - BRITISH MANAGEMENT

[The British, 1818-1884.](#)

As regards land administration, the sixty-six years (1818-1884) of British management fall under two nearly equal divisions, before and after the year 1854 when the introduction of the regular thirty years' revenue survey settlement was completed. The thirty-six years ending 1854 include two periods before and after the introduction of the survey settlement of 1836. Of these periods the first on the whole was a time of stagnation or decline, and the second was a time of progress. The establishment of order, together with the removal of abuses and the high prices of field produce, caused in the first four years of British management (1818-1822) an increase both in tillage and in revenue. This was followed by about fourteen years of very little progress or

rather of decline, the district suffering from bad harvests or from the ruinous cheapness of grain due to large crops, small local demand, the want of means of export, and a reduction of money caused by the stoppage of the inflow of tribute and pay which used to centre in Poona as the Peshwa's head-quarters. The result was a considerable fall both in tillage and in revenue. The assessment introduced at the beginning of British rule when prices were high about forty pounds the rupee for Indian millet, [At Indapur the Indian millet *or jvari* rupee prices were about 97 pounds in 1817, 48 in 1818, 34 in 1819, 39 in 1820, and 64 in 1821, 1822, and 1823. Bom. Gov. Sel. CVII. 118, or CLI.96,] pressed heavily on landholders in seasons either of bad crops or of low prices. Consequently the leading features of the revenue system. before 1836 were high assessment and large remissions. [Most writers have agreed that the rates first introduced by the British were too high. Sir G. Wingate wrote about 1840: There could be little doubt that the early Collectors over-estimated the capability of the Deccan and that the rates drained the country of its agricultural capital. Deccan Riots Commissioners Report 1875, para 33 pp. 18-20. According to some accounts one cause of distress was the falsifying of village records by the hereditary officers. Lieutenant Shortrede, 1st October 1835, Bom. Gov. Rev. Rec, 698 on 1836,85-86.] About 1825, with a view to relieve the distress, Mr. Pringle was appointed to survey the district and revise the assessment. His survey settlement was introduced over the whole district between 1829 and 1831. The measure proved a failure partly from the heaviness and inequality of the assessment and bad seasons and low prices, and partly from the evil practices of Mr. Pringle's native establishment. The defects of the settlement were early foreseen by the revenue officers, and, in Indapur and other parts of the collectorate, the new rates were either not levied or were soon discontinued, and the difference between the amount due and the amount collected was shown as a remission. About 1835 the regular revenue survey was undertaken. The first settlement guaranteed for thirty years Was introduced into Indapur in 1836-38, and the last into Maval in 1853-54.

[1817-1820.](#)

After the battle of Kirkee in November 1817 the greater part of the present district of Poona fell to the British and by the close. of the year all local disturbance had ceased. The only parts of the district which suffered from the war were Haveli, Junnar, and Sirur, through which the Peshwa Bajirav passed on his way to the Berars. [Captain H. D. Robertson, Collector, 1st February 1825. Bom. Gov. Rev. Rec. 117 of 1825, 509.] The chief measures adopted by the English were to

appoint (April-June 1818) a Collector of Poona to travel over the district and control the collection of the revenue and also to act as district magistrate and circuit judge. The officer appointed was Captain H. D. Robertson. [Heber's Narrative, III. 120. Captain Henry Dundas Robertson had charge of the city and district of Poona of which he was Collector of Revenue, Judge, and Magistrate. His district lay between the Nira and Bhima. Grant Duff's Marathas 679.] The straggling charges of the Maratha *mamlatdars* were formed into compact subdivisions yielding a yearly revenue of £5000 to £7000 (Rs. 50,000-Rs. 70,000), and over each a mamlatdar on £7 to £15 (Rs. 70-150) a month was placed. [Mr. Elphinstone, October 1819, Ed. 1872, 30, 31, East India Papers IV. 168-169.] One of the chief difficulties in starting the new administration was the want of men suited to be mamlatdars. As the British occupied the country before the Peshwa's cause was desperate, few men of local position or training at first entered the English service. The English were forced to employ what men they could find without much regard to their merit. Still when the struggle with the Peshwa was over and the final treaty was concluded, the Collector was able to secure a fair number of respectable servants of the government. A few mamlatdars were brought from Madras, partly from motives of general policy and that they might act as a check on local corruption, and partly to introduce some models of system and regularity. [The Madras mamlatdars were more active, more obedient, more exact, and more methodical than Maratha Brahmans. They introduced new forms of respect for their immediate superiors and at the same time showed less consideration to the great men of the country. To the bulk of the people their bearing was rough, harsh, and insolent. It was interesting to consider which of these characteristics the Ifadras had taken from the Musalmans and which from the English. Mr. Elphinstone, 25th October 1819, Ed. 1872, 30-31, East India Papers IV. 168-169.] The chief change, in fact almost the only intentional change, introduced in the revenue management was abolishing revenue farming. Farming was abolished in all departments except in the customs where there were no complaints, and apparently no oppression. In other respects as far as possible the existing system was maintained. The object was to levy the revenue according to the actual cultivation; to lighten the assessment; to introduce no new cesses; and to abolish no cesses except the obviously unjust. The orders were above all things to avoid innovations. In spite of the efforts to avoid innovations the introduction of foreign rulers and of foreign maxims of government caused many changes. In the revenue department Mr. Elphinstone believed that most of the changes were beneficial. The improvement was not so much in the rules as in the way of carrying out the rules. Faith was kept with the landholder, more

liberal advances were made, he was free from false charges as pretexts to extort money, and his complaints found a readier hearing and a surer redress. On the other hand some of the new ways were distasteful to certain sections of the people. There were more forms and there was more strictness. The mamlatdars disliked the narrow limits within which their discretion was bounded; they preferred the old system of perquisites to the new system of pay. The heads of the villages saw that the minuter inquiry into the distribution of the Government rental among the villagers weakened their power, and that the closer examination of the village charges or *sadilvar kharch* reduced their incomes. In the minds of the people, against the advantage of a decrease in village charges, was set the blank caused by the stoppage of former charities and amusements. Every effort was made to ascertain the condition of the landholders and to make the assessment light. Where there was any suspicion of fraud lands were measured. During the first two years (1817-1819) the Collector settled with the headman for the payment of the whole revenue of the village, and gave him a deed or *patta*. After the first season, before the settlement was concluded the Collector ascertained how much each landholder had to pay and that he agreed that the amount set against him represented his fair share. In all cases the foundation of the assessment was the amount which the village had paid when the people considered themselves well governed. From this amount deductions were made either because of a reduction in cultivation or on other specific grounds. The assessments were much lighter than formerly and much clearer and more uniform. ['Mr. Elphinstone, 1819, Ed. 1872, 30-32, East India Papers IV. 168-169.]

The chief difficulty in the way of a satisfactory village settlement was the want of records. Under the farming system the village records ceased to be used. Occasionally papers handed down from the earlier mamlatdars and fee-men or *darakdars* showed the revenue of whole villages, but they were seldom for any series of years. And as, while the farming system was in force, the hereditary district officers had lost their importance, few of them had preserved their records. The records of the village accountants were also mutilated, full of falsifications and interpolations, and never trustworthy. [Mr. Chaplin, 20th August 1822, Bom. Gov. Rev. Rec. 68 of 1823, 170-171. Compare East India Papers III. 804 and Lieut. Shortrede, 1st October 1835, Bom. Gov. Rev. Rec. 698 of 1836, 86.]

1817-18.

In 1817-18 the existing Maratha settlement was maintained and deductions were granted for any payments which had been made since the beginning of the year. The settlement was with the village headmen, who, Captain Robertson says imposed upon him and drained the people as much as they could. The people claimed to have Buffered from the war and considerable deductions had to be made on this account, though, except in the tracts of Bajirav's march Captain Robertson believed the people had suffered less than they were accustomed to suffer in years of peace and regular taxation. [Captain Robertson, Collector, 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825, 509. According to Dr. Coats (29th February 1820, Trans. Bom. Lit. Soc.III. 228) the people of Loni village hailed their transfer to the British as a happy event. The abolition of the revenue contracting system, and the liberal remission in consequence of losses by the war, confirmed the high expectations that had been formed of British justice and liberality.]

1818-19.

At the close of the year all balances were remitted. [Captain Robertson, 10th October 1821, East India Papers IV. 526.] In 1818-19 the crops were flourishing and the returns good. On account of the difficulty of collecting detailed village information, Captain Robertson continued the settlement with the headmen. [Dr. Coats writes on the 29th of February 1820 (Trans. Bom. Lit. Soc. III. 273-276) about the revenue settlement of the Loni village on the Ahmadnagar road. These details apply to the whole Poona district. " The revenues are derived from a direct tax on the land, and some extra impositions which must also indirectly come from the same source. The land tax varies from year to year according to the quantity under cultivation. Lands are classed into three kinds and pay a fixed tax according to their quality, agreeably to a rate and measurement made 200 years ago by the Muhammadans; previously to which time the custom seems to have been for the government to have a certain proportion, about half of the produce, or to commute it for money at the market price. The land tax is not increased in favourable. seasons, and in very unfavourable seasons the Government makes a remission Waste and foul lands pay such small rent as may be agreed on between the tenant and the Government agent till they have been brought fully under cultivation, when they become liable to the established tax. Of £130 (Rs. 1300), the amount of the revenue settlement for 1818, £120 (Rs. 1200) were derived from the direct tax on the land and £10 (Rs. 100) from indirect taxes; £24 8s. (Rs. 244) of this amount were granted to defray the expenses of the religious and charitable establishments of Loni, and

various customary charges and presents allowed by the Government, and £20 (Rs. 200) were remitted by the Collector in consequence of the un-favourable season and the poverty of the cultivators. The yearly settlement for the revenue the village is to pay for the ensuing year, takes place a little before the beginning of the rainy season. The *patil* and *kulkarni* first assemble all the cultivators, when the *lagvad jhada* or written details of cultivation for the past year are produced, and an agreement made with each of them for the quantity is to cultivate in the approaching season. As the *patil's* credit with the Government depends on the prosperity of his village and the state of cultivation, he endeavours to extend this by all means in his power. The headman will not allow a *thalkari* or hereditary landholder to throw up lands he had cultivated the year before; and should any part of his *thal* or estate be waste, he upbraids him and threatens to exact the land tax for it if he does not bring it under cultivation. The headman has less hold on the *upri* or casual holder who will go where he can get land on the best terms, and is obliged to treat him with great consideration. If from any *cause* the *upri* threatens to throw up his lands, he is privately promised better terms and greater indulgence; or if he is in distress for money he is promised advances or *tagai* from the Government. When the *patil* and *kulkarni* have made these preliminary agreements, they proceed to the Collector, or his agent, and enter into another agreement for the amount of revenue to be paid for the approaching year, subject to remissions on account of *asmani* and *sultani*, that is the destroying influence of skies and rulers or the hand of God and the king. The revenues are usually collected by four instalments. The first begins about October, and is termed the *tusar patti*, in allusion to the name of the crop reaped at this time which consists of *rate*, *mug*, *udid*, *maka*, *sava*, and *vari*. This instalment is in the proportion of one-eighth or one-tenth of the whole revenue. The second takes place in January, and is termed the *kharif patti* or tax, and is the largest instalment, being about one-half of the whole. The third is termed the *rabi patti*, and begins in March; and the fourth, the *akar sal patti* or a final settlement, usually takes place in May. The following is the process usually observed in realizing the revenues. The native collector or *mamlatdar* of the division sends an armed messenger with a written order on the *patil* to pay him an instalment of the revenue, mentioning the amount; on account of a specified crop. The order runs: ' *Tah mukadam suk Loni taraf Sandis prant Poona* (the Arabic year follows) *mauje machkur sal machkur paiki tusar patti baddal Rs.200 gheun huzur yenya kamas sipai pathvila ahe.*' (Signed). That is to the headman of Loni village, in the group of Sandis, in the district of Poona, in the Arabic year so and so, of the said village for the said year on account of the first instalment

Rs. 200 to bring to head-quarters a messenger is sent. The *patil* on this sends the beadle or *veskar* to the house of each cultivator, and summons him to attend at the *chavdi* or village office next morning, and be prepared to pay his proportion of the instalment of the revenue that is due. The headman, village clerk, and messenger go to the office and squat on a cloth on the cowdunged floor and the landholders attend in succession. Some at once pay their share, and take a receipt or *pavti* from the clerk. Many beg for a few days' respite, seldom more than a week, to enable them to discharge their share. The amount of annual tax paid by any individual in the Loni village is not more than Rs.50, and that of the majority is Rs. 20, so that the sum to be paid at an instalment is often only two or three rupees. The money is paid to the headman who hands it to the village *potdar* or treasurer to ascertain whether it is good. If it is good the *potdar* stamps his mark on it, and when the collections of the day are over, he takes it to his house. As soon as the whole instalment has been realized, it is sewed in a leather bag by the shoemaker, Sealed by the headman, and sent by a Mhar, under charge of the messenger, to the mamlatdar. If the *patil* has not been able to realize the amount of the order on him, he sends all he has collected with an explanatory letter to the mamlatdar, but the messenger does not in this case quit the village till he has been ordered to do so by his employer."] There were no complaints of over-assessment. Perhaps the dread of the new Government prevented the headmen from oppressing the people perhaps they took advantage of the change and frightened the people from complaining. Captain Robertson surveyed and measured the Nane Maval. The surveyors were men from Belari in Madras and they were allowed to carry out Sir Thomas Munro's survey rules. But the survey was badly done and showed so enormous an assessment that Captain Robertson did not adopt it.

1819-20.

In October 1819 an attempt was made to introduce a *rayatvar* or individual landholder settlement instead of a *maujevar* that is a village or headman settlement. The change had to be introduced slowly and with caution. In the first season the mistake was made of settling with the people for the customary or *vahivat* rates and not for the full or *kamal* rates, and either the village headmen or the hereditary officers raised large sums from the people in addition to what they paid to Government. In this year the crops were fair, and the price of grain was high about twenty-four pounds the rupee ($2\frac{3}{4}$ -3 *paylis*). But an epidemic of cholera, which had broken out in the previous season, proved so fatal that the population was seriously reduced and

cultivation spread but little. [Captain Robertson, Collector, 1st Feb. 1825, Bom. Gov. Rev, Rec. 117 of 1825, 509 - 514, 516-517; 10th October 1821, East India Papers IV. 580. So terrible was this cholera that in one village of 1000 people 460 died. Bom. Gov. Sel. CLI. 254.]

1820-21.

Of the state of the district and of the system of land administration in 1820-21, when the power of the British had been long enough established for their officers to gain a familiar knowledge of the people and of the condition of the district, several reports, chiefly those of Captain Robertson the Collector, have left interesting and fairly complete and clear details. [Captain H. D. Robertson, Collector, 1st May 1820 and 10th October 1821, East India Papers IV.] After June 1820, when Indapur and Shivner or Junnar were transferred from Ahmadnagar to Poona, the district stretched (October 1821) about 120 miles from north-west to south-east with an average breadth of about thirty-five miles and an area of about 4200 square miles. The population was about 500,000 or 119 to the square mile, and the yearly revenue was about £100,000 (Rs. 10,00,000), of which about £65,000 (Rs. 6,50,000) belonged to Government and about £35,000 (Rs. 3,50,000) were alienated. [Captain Robertson, 1st May 1820, East India Papers IV. 403; 10th October 1821, East India Papers IV. 524-525.] The 1213 villages of which 317½ were alienated, were grouped into nine sub-divisions, Poona City, Bhimthadi, Indapur, Pabal, Khed, Purandhar, Haveli, Maval, and Shivner or Junnar, the last eight yielding an average revenue of £12,500 (Rs. 1,25,000) and under the charge of mamlatdars whose pay varied from £84 to £180 (Rs. 840-Rs. 1800) a year. [East India Papers IV. 525, 526, 585. Ext. Rev. Letter from Bombay, 5th Nov. 1823, East India Papers III. 811. Mr. Elphinstone, 1819, Ed. 1872, 31, and East India Papers IV. 169.] About 700 men were engaged for the protection of the district of whom 192 were cash-paid fort guards or *shibandis*, 407 were revenue messengers or peons, and 100 were land-paid militia or *shetsanadis*, [East India Papers, IV. 590.] The country was divided into two chief parts, the sunset or *maval*, lands in the hilly west from which Shivaji had drawn the flower of his troops, and the eastern plain or *desk*. [East India Papers, IV. 404.] The western hills were covered with timber and brushwood, and the eastern hills and the whole plain country were bare of trees. [East India Papers, IV. 403; Heber's Narrative, Ed. 1829, III. 114.] Many rivers passed east and south-east from the Sahyildris. Their valleys, which were known as *khores* and *ners*, had rich soil, and, with some exceptions were well peopled and fairly cultivated though there were no watered crops or high tillage.

The stock of fish was by no means plentiful, and few of the fish were good eating. Tigers were found in the west, and all over the district were panthers, hyenas, wolves, and wild hog. The hills yielded little; the supply of teak and poona (*Calophyllum elatum*) was scanty, and the timber was small. The hill grass in the west was good for horned cattle though not for sheep or for horses, and on the skirts of the eastern hills there was excellent grass both for sheep and for horses. Compared with other parts of India the climate was good, the air was light, the cold bracing, and the heat not oppressive. During 1818-19 numbers had perished in a deadly plague of cholera; but this was unusual; the chief diseases were fever, ague, affections of the liver and bowels, and violent colds. [East India Papers, IV. 404.] Except a few showers from the north-east in November the supply of rain was from the southwest. Within about fifty miles from the Sahyadris the fall of rain was generally sufficient. East of this the supply was scanty and in Supa and Patas great scarcities were frequent. Of the 1213 villages or *maujes* some were alone and others had hamlets or *vadis*. Forty to ninety villages formed a group called a *tarf* or *mahal* with in each group a market town or *kasha*. Five to eight village groups formed a division called *subha*, *prant*, or *desh*. The village boundaries were in most cases natural boundaries, the limiting line in hilly districts as a rule carefully following the *panlot* or watershed. Most of the villages were open. Some had walls of mud and stone and in others the sides and gable ends of the outer houses were so connected as to form a valuable defence. [Extract Revenue Letter from Bombay, 27th November 1822, East India Papers III. 793-794. East India Papers, IV. 408.] There were three chief varieties of soil, black or *kali*, white or *pandhri*, and red or *tambat*. Of the black soil there were three varieties; the first called *dombi* and *kevaldhas*, the richest variety but not the most popular because of the large amount of water which it required; the stony called *khadkal* or *dhondal*, the most esteemed variety because it wanted comparatively little water, though it required manure and in spite of the husbandman's skill in mixing crops was believed to be losing its power; the third variety of black was when the black was mixed with sand clay or limestone. Of the white or *pandhri* there were several varieties. Most of it was charged with lime. But the husbandmen liked it as it was a clean soil growing few weeds. The red or copper soil was of several shades. It was generally a poor soil along the skirts of the hills rough and stiff to work and requiring deep ploughing. If well worked it sometimes yielded large crops. The chief varieties were pure red or *nirmal tambdi*, the lightest and richest variety, deeper and sandier than any other; upland or *mal jamin* thin and with rock near the surface; *valsar* or sandy fairly rich when tolerably deep; and *chopan shedvat* or *chikni* a clayey soil found near

river banks. Of other soils in --swampy lands there was a clayey variety called *shembad* or *upal*. Roughly, of the whole area of arable land perhaps about fifty per cent were black or *kali*, twelve per cent white or *pandhri*, thirty per cent red or *tambdi*, and eight per cent of other soils. Of the fifty per cent of black land about forty yielded dry grains or *jirayat* or were waste; and of the remaining ten, two per cent yielded garden crops, five per cent cold weather or *rabi* crops watered by channels, and three per cent cold weather crops watered from wells. Of the twelve per cent of white land one per cent yielded garden crops, two per cent cold weather crops watered by channels, two per cent cold weather crops watered from wells, and seven per cent dry crops. [Captain Robertson, 10th October 1821, in East India Papers IV. 565-566.] Of the thirty per cent of red land twenty-seven per cent yielded dry crops or were waste. Of the remaining three per cent half a per cent yielded garden crops, one and a half per cent yielded channel watered cold weather crops, and one per cent well watered cold weather crops. The eight per cent of other soils either yielded dry-crops or were not under tillage. According to these returns eighty-two per cent of the arable land yielded dry crops, and eighteen per cent yielded watered crops. Of the watered land ten per cent were black, five white, and three red. Of the eighty-two per cent of dry crop land about forty per cent black, seven per cent white, and seven per cent red, or fifty-four per cent in all, could grow cold weather crops; the remaining twenty-eight per cent grew only early or rainy weather *kharif* crops. Of these eighty-two per cent of unwatered land only twenty-two per cent were under late crops, about forty per cent were under *kharif* crops, and about twenty per cent were waste or fallow. Of the arable land of the district about twenty per cent or one-fifth, were waste and eighty per cent or four-fifths were under tillage. Of the eighty per cent under tillage about half were under dry-crops. Of the remaining forty per cent three and a half were under garden crops, six under well-watered late crops, eight and a half under channel watered late crops, and twenty-two were not watered. Of the forty per cent under early crops thirty-five per cent grew the better dry grains, four per cent grew rice, and one per cent grew hill grains or *varkas*. [East India Papers, IV. 565-567. By *kharif* is to be understood crops brought to maturity by the monsoon rains; and by *rabi*, those that are matured by dews and by irrigation and partial showers in the fair season, from November till March. It is to be remarked that no rice is cultivated by irrigation, all which is sown depending solely on the south-west rains, and a partial and uncertain supply from streams that continue to flow for a fortnight or three weeks after the south-west rains cease. Captain Robertson, 10th October 1821, East India Papers IV. 568.] Of the grains grown in the Poona district seventeen, which were specially

prized by the people, were known as the great gifts or *mahadin*. These were *alshi, chavlya, harbhare, hulge, javas, jondhle, kodru, lakh, masur, mug, rice, satu, til, tur, udid, vatane*, and wheat. The other products were small grains, *ambadi, bajri, bhadli, dhonglya, harik, javas, kathan* of sorts, *kardai, maka, math, mohrya, nagli, pavte, ran-mug, ran, sorti, siras, til*, and *vari*. Besides these there were several wild or self-sown grains, chiefly *barbade, devbhat, havri kamal-bij, pakad, til, udid*, and *varsh-bij*. The crops generally grown were on garden land betel leaves, chillies, carrots, garlic ginger, *jvari*, Indian corn, *kadval; kothimbir*, onions, peas or *vatane*, radishes, *rajgira, rale, satu*, sugarcane, sweet-potatoes, tobacco wheat, and yams; on black land *ambadi, bajri*, gram, *hulge, jvari, math, mug, pavte, rale, tobacco, tur, vatane*, and wheat; on poor land *bajri, bhadli, hulge, math, nagli, sava, til*, and *vari*; on uplands *bajri, bhadli, jondhle, nagli, sava, tur*, and *vari*; and on pulse or *kathan* land, gram, *kardai, masur, satu, val, vatane*, and wheat. The following is a rough estimate of the quantities of seed required to sow a *bigha* or about three-fourths of an acre of the different crops: [In the west the land was divided into three classes, *varkas* or upland, *kathan* pulse, and *bhusar* or rice. Captain Robertson, 10th October 1821, East India Papers IV. 572-574.]

POONA CROPS: PAYLIS OF SEED TO THE BIGHA, 1821.

CROP.	LAND.			CROP.	LAND.		
	Good.	Middle.	Poor.		Good.	Middle.	Poor.
	<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis.</i>		<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis.</i>
<i>Alshi, javas</i>	2	3	4½	<i>Mirchi</i>	5	6	7
<i>Ambadi</i>	2	3	4	<i>Mug</i>	5	6	8
<i>Bajri</i>	1	1½	2½	<i>Nagli</i>	1	1½	2
<i>Bhuimug</i>	two <i>mans</i> weight			<i>Rale</i>	1	1½	2½
<i>Chavlya</i>	5	6	7	Rice	36	42	50
<i>Harbhare</i>	6	7	10	<i>Sava</i>	1	1½	2
<i>Hulge</i>	1½	2½	4	<i>Shalu</i>	8	10	13
<i>Jondhle</i>	1	1½	2½	<i>Til</i>	1	1½	2
<i>Kardai</i>	2	2½	2½	<i>Tur</i>	2	2½	3

<i>Kodru</i>	1	2	2½	<i>Udid</i>	3	6	7
<i>Lakh</i>	2	3	4	<i>Vari</i>	30	32	40
<i>Masur</i>	6	8	11	<i>Vatane</i>	2	3	3½
<i>Math</i>	1½	2	2½	Wheat	3	6	10

The result of two experiments on first rate black land made by Captain Robertson on the 31st of October 1820 was to show an average outturn of grain to the English acre worth about £3 (Rs. 30), the outturn being turned into money on the basis of about forty pounds of millet (5 *paylis*) to the rupee. [The trials on which this estimate was based were: In Talegaon Dhamdhere in one *pand* or one-twentieth of a *bigha* of the field called Gokal which had the best soil and yielded the best crop of the year (a middling year), 9/10 the of the crop were *bajri* and 1/10th *jvari*. It yielded 5½ *paylis*, that is 110 *paylis* worth Rs. 22 to the *bigha*. The second trial was in the village of Tankli in the field of one Tulaji Kale, in one-twentieth of a *bigha* of the best black land of a middling crop of spiked millet or *bajri* mixed with other grains. The *bajri* yielded 3⅛ *paylis* that is at the rate of 62½ *paylis* the *bigha*, worth Rs. 12½, and the other products worth Rs. 14 *as*. 15 or a total value of Rs. 27 *as*. 7 East India Papers, IV. 568.] Estimates of the best black land in three good and three bad years gave a mean *bigha* outturn of 103 *paylis* or about 824 pounds worth £2 4s. (Rs. 22). [East India Papers, IV. 569, The details are:

Poona Crops: Best Unwatered Black Land, 1820.

CROPS.	Best.	Middle	Worst	Total.	Average.	Value.
	<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis.</i>	Rs.
<i>Bajri</i> .	65	57	35	157	52	--
<i>Tur</i>	30	26	12	68	22	--
<i>Til</i>	25	18	8	51	17	--
<i>Rale</i>	20	14	10	44	14	--
<i>Ambadi</i>	5	3	2	10	3	--
Total	145	118	67	330	110	26
<i>Bajri</i>	120	100	70	290	97	--
<i>Jvari</i>	6	4	3	13	4	--

Total	126	104	73	303	101	20
<i>Bajri</i>	50	40	28	118	39	--
<i>Tur</i>	60	45	28	133	44	--
<i>Til</i>	20	15	10	45	15	--
<i>Ambadi</i>	4	3	2	9	3	--
Total	134	103	68	305	102	25

continued

CROPS.	Best	Middle	Worst	Total.	Average.	Value.
	<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis.</i>	<i>Paylis</i>	<i>Paylis.</i>	Rs.
<i>Bajri</i>	70	60	45	175	58	--
<i>Math</i>	60	50	40	150	60	--
Total	130	110	85	325	108	20
<i>Pivla Jondhala</i>	130	108	80	318	106	20
Wheat	100	80	60	240	80	20
Gram	130	115	90	335	112	22
Total	895	738	523	2166	719	152
Average	128	105	75	308	103	22

]

From this, Captain Robertson thought that to give a fair return for a series of years, one-fourth should be taken to represent the failure of crops on account of want of rain. The mean *bigha* outturn would then be about 616 pounds (77 *paylis*) worth £1 12s. (Rs. 16). [East India Papers, IV. 669-570.] To this should be added about 56 pounds (7 *paylis*) worth 3s. (Rs. 1½) for a second crop or a total mean outturn of about 672 pounds (84 *paylis*) worth £1 15s. (Rs. 17½). Experiments and estimates seemed to show that the mean outturn of second clan land was about one-third less than the mean outturn of the best land that is about 448 pounds (56 *paylis*) worth about £1 3s. 4¼d, (Rs. 11 as. 10 5/6). Similar estimates gave for the poorest lands an outturn of about five-sevenths less that is of about 192 pounds (24 *paylis*) worth

about 6s. 4 $\frac{3}{4}$ d. (Rs.3 as. 3 $\frac{1}{6}$). That is for the three leading classes of land an average outturn of about 437 $\frac{1}{3}$ pounds (54 $\frac{2}{3}$ *paylis*) worth about £1 1s.7d. (Rs.10 as. 12 $\frac{2}{3}$). [That is about 520 pounds (65 *paylis*) worth Rs. 12 as. 9 $\frac{3}{4}$ the acre. East India Papers, IV. 570. According to Captain Robertson (10th October 1821 East India Papers, IV. 570) 2 $\frac{3}{8}$ pints are equal to one measured *sher*. The equivalents of *paylis* in the text are given at two pounds the *sher* or eight pounds the *payli*.] The rates in force in the greater part of the district under the Maratha or *kamal* settlement were, except in the western rice lands or about twenty-two per cent of the whole, a *bigha* of dry land fit to yield vegetables or *jirayat malai*, 6s. (Rs. 3); a *bigha* of pulse or *kathan* land 4s. (Rs. 2); a *bigha* of second class land 3s. (Rs. 1 $\frac{1}{2}$); a *bigha* of third class land 2s. (Rs. 1); and a *bigha* of fourth class land 1s. 6d. (12 as.), that is an average of about 3s. 3 $\frac{5}{8}$ d. (Rs.1 as. 10 $\frac{5}{2}$) that is equal to about one-sixth of the average outturn. [East India Papers, IV. 570.] As regards watered land Captain Robertson's estimates of outturn were for unhusked wheat on a *bigha* of black soil of the first sort about 1728 pounds (216 *paylis*), of the second sort about 1344 pounds (168 *paylis*), and of the third sort about 1264 pounds (158 *paylis*). This gives for the three sorts an average of about 1440 pounds (180 *paylis*) the *bigha* that is about 1728 pounds (216 *paylis*) the acre. [Captain Robertson estimates this acre outturn of 216 *paylis* or 864 *shers* equal to 32 English standard bushels, and notices (10th Oct. 1821) that the poorest land in Scotland yields of oats from one bole and a quarter to one bole and a half or from five to six bushels to the English acre; the average barley produce to the acre on middling land in Scotland is twenty bushels; the average of wheat is twenty-four bushels. In Yorkshire the average of oats is fifty-eight bushels. Barley in the mid-land district of Gloucester yields sometimes sixty bushels but the average is thirty-four bushels; in the vale of Gloucester a farmer in 1784 averaged from fifty acres no less than forty-five bushels to the acre of wheat but this was considered a very superior crop. East India Papers, IV. 571.] The current assessment on a *bigha* yielding this produce was 8s. (Rs. 4) if it was watered from a channel, and 12s. (Rs. 6) if it was watered from a well Captain Robertson's experiments in rice lands gave a *bigha* outturn of about 1806 pounds (1 *khandi* and 1 $\frac{1}{2}$ *mans* or 225 $\frac{3}{4}$ *paylis*) for a good crop, about 1281 pounds (15 $\frac{1}{4}$ *mans* or 160 $\frac{1}{8}$ *paylis*) for a middle crop, and about 777 pounds (9 $\frac{1}{4}$ *mans* or 97 $\frac{1}{8}$ *paylis*) for a poor crop, that is an average of about 1288 pounds (15 $\frac{1}{8}$ *mans*) equal to 161 *paylis* the *bigha* or 207 *paylis* that is 30 $\frac{3}{4}$ English bushels the acre. The season of 1820 when the experiments were made was a poor rice year and a more correct average was said to be 20 *mans* the *bigha* or 87 bushels the acre. [East India Papers, IV. 571-572.]

As regards the style of tillage Captain Robertson noticed that land was not ploughed oftener than once in three or four years. In the other years harrowing was considered enough. But this harrowing was laborious as to destroy the weeds it had to be repeated four times, each time in an opposite direction. [East India Papers, IV. 578.] As regards the cost of tillage Captain Robertson's inquiries showed that a set of eight bullocks could till about 26 acres (35 *bighas*) of good bad and indifferent land, and about 19 acres (25 *bighas*) of good land. A bullock cost on an average £1 16s. (Rs. 18) and lasted ten years, that is the team of eight bullocks represented an average yearly charge of £1 9s. (Rs. 14½). The cattle were fed on grass and straw which cost almost nothing, and a few sugarcakes costing for the eight bullocks about 4s. (Rs. 2) a year. To work the eight bullocks four men were wanted who, if all four were hired, would cost £18 4s. (Rs. 184). [The details are: Food, 2880 pounds or 360 *paylis* of millet or *nagli* at 40 pounds (5 *Paylis*) the rupee, £7 4s. (Rs. 72); cash at £2 (Rs. 20) each for three men and £2 4s. (Rs. 22) for the fourth or a total of £8 4s. (Rs. 82); clothes for the four men £3 (Rs. 30). Total £18 8s. (Rs. 184). East India Papers, IV. 576.] Other yearly expenses for field tools would amount to an average of about 16s. (Rs. 8). [The details are: Every year, for the plough ropes 5s. (Rs. 2½) and *ankda* 3s. (Rs. 1½) or in all 8s. (Rs. 4); every five years, a *phal* 3s. (Rs. 1½), a *halas* 5s. (Rs. 2½), a yoke or *ju* 5s. (Rs. 2½), *shilvat* or *shilvati* 4s. (Rs. 2), *kulav* 4s. (Rs. 2), *panshes* (?) 5s. (Rs. 2½), *Pabhar* or *pabhar* 6s. (Rs. 3), *panle* (?) 3s. (Rs. 1½), *sindris* (?) 6s. (Rs. 3), total £2 1s. (Rs. 20½) in five years or 8s. (Rs. 4) every year. Total for dead stock 16s. (Rs. 8) a year. East India Papers, IV. 576.] The average cost of seed on about 26 acres or 35 *bighas* at about eight pounds the acre (3 *shers* the *bigha*) represented £1 1s. (Rs. 10½). That is a total yearly outlay of about £22 (Rs. 219). To this cost of tillage were to be added the rent and other charges on the 26 acres (35 *bighas*) of land. These at £5 15s. 6d. (Rs. 57¾) for the assessment, 13s. (Rs. 6½) for extra cesses, and £7 (Rs. 70) for the claims of district and village officers and servants, amounted to about £13 (Rs. 134¼). That is for 26 acres (35 *bighas*) of good middle and bad land a total expenditure of about £35 (Rs. 353¼). The average produce of the 26 acres (35 *bighas*) was about 437½ pounds (54¾ *paylis*) worth £1 1s. 7d. (Rs. 10 as. 12¾) the *bigha* representing a value of £37 15s. 5d. (Rs. 377 as. 11¾), and this, after deducting the £35 (Rs. 353¼) of charges, left a balance of £2 8s. 11d. (Rs. 24 as. 7¾). [Capt. Robertson in East India Papers, IV. 576.] If instead of hiring the four men two of the men, as was the case in most families, belonged to the household, though the cost of food and clothes would remain the same or might slightly rise, £4 (Rs. 40) would be saved in wages. If, instead of being bought, the bullocks

were reared at home, the yearly outlay on bullocks might be-reduced about 7s. (Rs. 3½), and the wife and children, from the sale of milk butter and cowdung-cakes, might make £3 (Rs. 30) a year. These three items together amounted to £7 7s. (Rs. 73½) which with the balance of £2 8s. 11d. (Rs. 24 as. 7⅓) of receipts over expenditure amounted to a total of £9 15s. 11d. (Rs. 97 as. 15½). In the best land, according to Captain Robertson's calculations the balance of receipts over charges in regular tillage would be £9 5s. (Rs. 92½) instead of £2 8s. 11d. (Rs. 24 as. 7⅓), that is, together with the £7 7s. (Rs. 73½) savings from the home work of the men and the extra earnings of the women and children, a total profit of £16 12s. (Rs. 166). [The details of the charges and receipts of about 19 acres (25 *bighas*) of the best land are: Cost of tillage as for poorer land Rs. 219, Government assessment at Rs. 2 a *bigha* Rs. 50, extra cesses Rs. 6, allowances and village servants' shares Rs.70; total Rs. 345. Under receipts, 25 *bighds* at 84 *paylis* worth Rs. 17½ a *bigha* give Rs. 437½ that is a balance of Rs. 92½. East India Papers, IV.. 577.] On the basis that the father and son worked instead of two of the hired men this estimate of cost of tillage, rent, and other charges, and value of produce showed that in good lands the Government share of the outturn was 13 per cent and the landholder's share 87 per cent. Out of the landholder's 87 per cent 16 per cent went to claimants and village servants, 29 per cent represented the cost of tillage, and 42 per cent the balance left for the support of the family which generally contained six members. In average lands the Government share was 17 per cent and the landholder's share 83 per cent. Out of the landholder's 83 per cent 18 per cent went to village servants and other claimants, 34 per cent represented the cost of tillage, and 31 per cent the maintenance of the landholder's family. [East India Papers, IV. 578.] In Captain Robertson's opinion these results showed that Government took from the landholder quite as large a share of the produce as it could safely take. Regarding the cost and profit of rice tillage Captain Robertson gave the following estimates. Only two bullocks were required for one plough. A man and his family might live on the produce of one plough but they would be wretchedly poor. A pair of bullocks could plough about 4 acres. (5 *bighas*) of rice and about 1½ acres (2 *bighas*) of *nachni* and *sava*. The best way of growing rice was by planting the seedlings. This was laborious and costly. It would take fifty men one day to plant the seedlings of one *man* of seed, or 150 men for one day to plant 4 acres (5 *bighas*). Labourers called in to plant for one day's work were paid about eight pounds (1 *payli*) of rice and a cake of some other grain. The planting of rice, where each handful of seedlings had to be separately pressed into the ground, was much more troublesome than the planting of *nachni* and *vari* whose seedlings were

thrown down at intervals and left to take root. Ten men could plant as large an area of *nachni* or *vari* as 150 men could plant of rice. [East India Papers, IV. 578, 579.] At the rice harvest a man and his wife could cut four acres (5 *bighas*) in eight or nine days. But there was always special expenditure as the grain had to be carried and stacked before it got too dry, and several men were generally hired and paid about eight pounds (1 *payli*) of rice for a day's work. In growing *nachni*, or *vari* except at harvest, little outside help was wanted. *Sava* had to be weeded when the grain was about a foot high. The weeding was carried out by the mutual agreement of the villagers with no other cost except a small outlay on liquor. As they worked in the chilly rain very lightly clad, it was hard work to keep the weeders in spirits. They were generally given as much liquor as they could drink and had a drummer behind them who kept drumming and every now and then shouted *Bhalere dada bhale bhai dada*, or Well done brothers well done. [East India Papers, IV. 578-579.]

There were few masonry watercourses in Poona. What there were had been built by the Moghals and were cleaned and repaired by Government. Six of the sub-divisions had no regular dams and no watering lakes or reservoirs. If a stream passed near his fields a landholder occasionally made a temporary dam and dug a channel. But it was neither according to rule nor according to practice to make the whole members of a village undertake such works. In villages which had an old water-work, the people might give their labour to repair it; but even this was not a condition of their tenure. Since the English had conquered the country no new reservoirs or watercourses had been made. [East India Papers, IV. 526.]

Condition, 1821.

The greater part of the people were Kunbis or cultivators. [East India Papers, III. 793.] Their number had probably not increased during the three years of British rule. A good many of Bajirav's servants and messengers had come and settled in their villages. But the cholera had perhaps swept away more than had come back; and a good many, tempted by low leases, were leaving Indapur (October 1821) and settling in the Nizam's country. [East India Papers, IV. 592.] After a succession of years of good or fair harvests and high prices the state of the husbandmen was by no means wretched. Still they were generally small, poor, and badly clothed. The people of the eastern plain as a rule were abler bodied and better looking than those of the west. This was said to be because the eastern people lived on millet, and the western people on rice *ragi* and *sava*. Few husbandmen in any

part of the district ate wheat; what wheat they grew went to the nearest market town. [East India Papers, III. 793; East India Papers, IV. 404.] All ate flesh and drank liquor. But they were not drunken, and drunkenness was very rarely a cause of crime. [Capt. Robertson, 10th Oct. 1821, East India Papers IV. 592; Extract Rev. Letter from Bombay 27th Nov. 1822, East India Papers III. 793.] Though as a whole the husbandmen might be described as badly clothed, the people of the west were much worse clothed than the people near Poona. In the west they had little but a blanket and a scanty cloth round the middle while near Poona the men had generally a very good pair of cotton breeches. [East India Papers, IV. 404.] In the west rents were high, the claims of village servants and others were heavy, and the people were poor. [East India Papers, IV. 592,] In the east the houses were of mud and stone with flat mud roofs; in the west they were smaller and were covered with thatch. [East India Papers, III. 794; East India Papers, IV. 408.] The usual yearly rate of interest was (October 1821) twelve per cent; but $18\frac{3}{4}$ per cent a year ($\frac{1}{4}$ a. a month for a rupee) was common, and in the west twenty and twenty-four per cent were paid. When the interest was paid in grain about 75 per cent (a *sher* a rupee a month) was taken. If grain was borrowed for food, one quarter to three quarters more than the quantity borrowed had to be repaid; and if grain was borrowed for seed, double the quantity borrowed had to be repaid. It had been and it still was usual for the husbandman to make a bargain with a grain dealer to advance him the price of his crop before the crop was cut, and he paid his rent by an order or *havala* on the grain dealer to whom he had made over his crop. In this the husbandman suffered as he was generally pressed for money and the grain dealer held back till he was able to buy at something less than the market value of the grain. [East India Papers, IV. 580.] Though as a class the villagers were frugal and provident, owing to the oppression of the revenue farmers many were deeply in debt. These debts were of long standing and were often made of compound interest and occasional aids. Such debts could in fairness be settled only by a compromise which could rarely be obtained except through a jury or *panchait*. [Mr. Chaplin, 20th August 1822, East India Papers IV. 514.]

Slavery, 1820.

Under the landholding class at the beginning of British rule was a class of slaves. Dr. Coats (Feb. 1820) found in the village of Loni eight families of slaves, comprising eighteen persons. In reward for good services one of the slave families had virtually received their freedom lived in a separate house, and tilled on their own account. The others

lived in their masters houses. The slaves were well treated. They were clad and fed and except that they took their meals apart, were treated in the same way as the members of the family. If they behaved well they got pocket money on holidays, and their masters were at the expense of their marriages which cost £5 or £6 (Rs. 50 or 60). The men worked in the fields; the women helped their mistresses; and when unmarried were sometimes their masters' concubines. The present race were all home-born. Some of them were descended from women brought as prisoners from Hindustan and the Karnatak. Freedom was sometimes given to slaves from religious motives, for good conduct, and sometimes because they became burdensome. Such persons took the name of *shinda* or bastard and were considered inferior and were avoided in marriage. Slave-dealing was thought disreputable, and was not much practised. Boys were rarely brought to market; sales of girls were commoner. Beautiful girls were bought by the rich as mistresses, or by courtezans to be taught dancing and singing and fetched £10 to £50 (Rs. 100-500). The less favoured were bought as servants in Brahmins' families. [Trans. Bom. Lit. Soc. III. 239 - 240. Regarding the condition of the people at the beginning of British rule the authorities do not altogether agree. In his paper (Trans. Bom. Lit. Soc. III. 225-228) Dr. Coats described (29th Feb. 1820) the condition of the people of Loni as extremely deplorable. Their houses were crowded, and not sufficiently ventilated; and their cattle and families were often under the same roof. Their food, although seldom deficient in quantity, was not always wholesome and nutritious; and they were wretchedly clothed. Though exercise and water-drinking generally made them wear well, the constant labour of their women out of *doors* unfitted them for nursing, and in consequence a large proportion of their children died in infancy. The heavy exactions imposed on them by the Government kept them poor, and did away every prospect of independence or improvement. They were improvident, and seldom troubled themselves with the future. The township of Loni contained eighty-four families of landholders all of whom, excepting fifteen or six-teen, were more or less in debt to moneyed men in the neighbourhood, generally to Brahmins or shopkeepers. The total indebtedness amounted to £1453 (Rs. 14,530), and besides this the community owed £307 (Rs. 3070). The usual rate of interest was twenty-four per cent a year, but when small sums were borrowed, the interest was often as high as $\frac{1}{2}$ *anna* per rupee a month or about forty per cent. The indebtedness of individual landholders varied from £4 to £20 (Rs. 40-200) and two or three were over £200 (Rs. 2000) in debt. These debts had generally been contracted to meet marriage expenses, or to buy cattle and food. Each debtor kept a running account with his creditor, and took a receipt for sums he

might from time to time pay, while the interest was brought against him till it equalled the principal, where it ought legally to stop; *dam dusar kan tisar* or for money double for grain treble, was the maxim that guided juries in settling these debts. Few of those in debt knew anything about their accounts. It was a common opinion among them that they had discharged all just demands on them over and over again. As none of them knew anything of accounts this was possibly not without truth. Besides owing money, about a fourth of the villagers were indebted to their neighbours for grain and straw borrowed to support themselves and their cattle till the next harvest. This they were bound to repay in kind, and with never less than an increase of fifty and often of seventy-five per cent. The whole of the landholder's crop was generally mortgaged before it was reaped. This was the case in ordinary times. In bad seasons or in case of any calamity the evil was much increased. If any of their cattle died they had no means of replacing them but on the terms above explained; and if they failed in this, their only resource was to quit their fields for a time and endeavour to save a little money ' by becoming servants to Brahmins and others, or perhaps by enlisting as soldiers.]

TENURES, 1821.

In 1821, according to Captain Robertson, there were eight leading and many subordinate tenures. [Capt. Robertson, Collector, 10th Oct. 1821, East India Papers IV. 543-547] These were *sosti* or full rent, *kauli* or lease, *ukti* or short rent, *dumala* or service granted, *inamati* or rent alienated, *sheri* or Government held, *pal* or *sut* that is rentfree, and *gahan* or mortgaged.

Sosti.

SOSTI included land which paid Government a full rental. It was of two kinds, *mirasi* or hereditary and *gatkul mirasi* when the hereditary holder was absent. Land held by a *mirasdar* was considered to be the holder's property; he could either sell it or mortgage it. *Oatkul miras* was land whose hereditary holder had disappeared, and which the headman might let on the best terms he could secure and was not bound to pay Government more than the original holder would have paid had he remained. Land of this kind was considered to belong to the village community and by the village was saleable and assignable in mortgage to defray public debts and public expenses. Under the British system the headman ceased to have power to dispose of this class of land.

Kauli.

KAULI or leasehold included land let for a series of years at an increasing specified assessment. If on the last year of the lease the full rental was paid, leasehold land came to be ranked with full rent or *sosti* land. It belonged to the village community and was saleable and assignable by it. Under the Marathas leases were granted by the village headmen; under the British the power of granting leases was directed and controlled by the mamlatdars.

Ukti.

UKTI or short rate tenure included all land held on something less than a full rental. It was of two kinds, *ukti* or *makta gatkul mirasi* and *khand makta mirasi*. *Makta gatkul mirasi* was hereditary land whose holder had disappeared and which for some short specified time was let to some one else at a rental short of the full amount; it belonged to and was saleable by the village community; *khand makta mirasi* was similar land let under similar circumstances but on a permanent agreement. This land was saleable and assignable in mortgage by the holder. This which was more favourable than the ordinary hereditary tenure was extremely rare.

Dumala.

DUMALA, literally two-owned land, in the sense that the original owner had not entirely parted with it, was land held for service. It included *shetsanadi* land held for military service as garrison troops; *bakshis* or gift-land, generally garden land granted to a man for his life and then recalled; and *saranjam* land held rent-free at the pleasure of Government without any stipulation of service. *Gaon nisbat dumala*, or two-owned village-land was village land granted rent-free to a Ramoshi or watchman who could neither sell nor mortgage it.

Inamati.

INAMATI or rent-alienated land was land granted in perpetuity, through favour, in charity, or to an hereditary office-holder, It included *sanad inamati* or deed-rent-alienated and *gaon nisbat inamati* or village-rent-alienated. *Sanad inamati* had four varieties. All of them were liable to pay the dues of village and district claimants or *hakdart* and all of them originated from the ruling power. *Sanad inamati* land was held in perpetuity by a deed or *sanad* from the ruling power, free of all Government exactions. A grant of this kind seemed to have been

always made from ownerless and fallow land. The right assumed by Government to grant such land was not disputed by the village corporation. The other three varieties of deed-held land were *inam nimai* which paid a Government rent equal to one-half of the full rent, *inam tijai*, which paid a one-third Government rent, and *inam chauthai* which paid a one-fourth Government rent. *Gaon nisbat inamati* was of seven varieties, the headman's land *pasodi*, the Mhar's land of two kinds *hinki* and *hadola*, temple land or *devasthan*, craftsmen's land or *vaveli*, charity land or *dharmadaya*, and ordeal land or *dev teki*. Of these, two paid the claimants' dues and one made some payment to Government. Grants of this class were made by the village corporation, but Government appeared to have the power to order an assignment in *indm* under this head. The headman's grant or *pasodi*, which perhaps originally meant a grant for clothes, was saleable and assignable in mortgage with or without the office of headman. It was free from all charges except the claims of village servants or *balutas*. The grant to Mhars known as *hadki* or *hinki* was a plot of land set apart by the Mhars for carcasses and bones except a fringe round the edge which they tilled; it paid no rent or other charge. The other Mhar grant known as *hadola* or the bone-land was instead of cash payments. It was *saleable* and assignable in mortgage and was free from all claims. Temple or *devasthan* land was assigned for the village gods and for mosques. This land was in charge of the ministrant at the village temple, who was generally of the Gurav caste. He sold the produce and set apart the price to meet the daily charges for the god's red paint, clothes, food, oil, and vessels. It was neither transferable nor saleable. In the west of the district a grant of land to the village craftsmen or *balutas*, who were known as *vavelikars*, took the place of a share of the produce. Charity land or *dharma-daya* was land given in charity or instead of a money payment. It was assignable in mortgage and saleable by the holders. It paid no tax or fee. Ordeal land or *dev teki* the last of the village grants was land held by a headman or Mhar in return for having gained for the village some disputed land by passing an ordeal. It was saleable and assignable in mortgage.

Sheri.

SHERI was at the disposal of Government and was managed by the Government direct, not through the headman or any of the village agents. It was entirely Government property and paid no fee.

Pal or Sut.

PAL or SUT land was a small plot of rent-free land in a large holding, which was thrown in to make up for some disadvantage under which the holding suffered.

Gahan.

GAHAN. The last special tenure was land held in mortgage or *gahan*. There were six forms of mortgage: (1) The mortgager handed the land to the mortgagee and continued to pay the Government demand and at the end of a certain term the whole debt was cancelled; (2) the mortgagee paid the Government rent; (3) the mortgagee took the produce of the estate as interest and the principal had to be separately paid; (4) the mortgager managed the land and paid the mortgagee a share of the produce; (5) if the mortgager failed to pay within a certain time, the land passed to the mortgagee; (6) the mortgagee paid the rent on condition that if the mortgager did not pay the principal within a certain period he must sell the land to the mortgagee at a fixed price.

Palnuk.

PALNUK. Besides those noticed by Captain Robertson there was a local tenure in the Mulshi petty division formerly of Maval now of Haveli. This was styled *palnuk* [Though Capt. Robertson does not mention *palnuk*, the following passage in his report (10th Oct. 1821) seems to refer to this tenure. 'In twelve or fourteen villages of the Paud Khore certain Brahmans do not pay the full assessment.' He thought this privilege had been acquired because they were rich and respectable, and not from their being poor. East India Papers, IV. 580.] or rent-exemption and resembled the *pandharpesha* or leading villager tenure of the North Konkan. Under the *palnuk* tenure freedom from village charges and other claims were granted to hereditary district officers Brahmans and others specially mentioned. In some cases this *palnuk* or reduction in rent amounted to as much as sixty-one per cent and in no case was the remission less than eighteen per cent. [Poona Collector's Compilation of 1853, 47, 388.] In 1830, September 6th, when he was introducing his settlement into the Mavals, Mr. Pringle noticed that in some villages, chiefly in the Paud vale, Brahmans, village officers, and certain others were free from extra cesses, villagers' claims, village expenses, and other charges. The tenure was called *palnuk* or freedom from cesses and was like the leading villager or *pandharpesha* settlement in the North Konkan. Though the privilege was not supported by distinct grants, Mr. Pringle was satisfied that it had long been enjoyed and had been admitted by the Maratha

government. Mr. Pringle thought that the privilege should be confined to those who were in actual enjoyment of it. He accordingly prepared a register which showed that 196 privileged holders enjoyed a concession representing a yearly sum of £351 (Rs. 3510). The reduction on the survey assessment of each of these privileged holders was effected by calculating the value of the cesses or *babs* from the payment of which each was exempt. The sum thus found was deducted from the regular assessment by a percentage rate equivalent to its amount. From this information a statement was prepared, giving the name's of the *palnukdars* and the reduction to which each was entitled. This arrangement remained in force till 1854. The only change in the interval was that by transfer of the land or the failure of the family of the original holders the amount of the concession had fallen from £351 to £319 (Rs. 3510-3190). [Bom. Gov. Sel. LXX. 11 - 12. Under a circular of the Revenue Commissioner N. D., 963 of 8th August 1844, it was decided that the concession ceased with the death of the original *palnukdar*. This circular was modified three years after by Gov. Letter 2698 of 14th July 1847, which declared that the transfer of land by lineal descent did not affect the concession, Revenue Circular Orders Book, 1860, 415.]

In proposing the Maval survey settlement in January 1854 Captain Francis the Survey Superintendent thought it advisable to make a temporary concession to the *palnukdads* like the concession proposed for the Konkan *pandharpeshas*. He thought Mr. Pringle's statement of the enjoyers of the *palnuk* concession should be adopted as the basis of the settlement. That if the new survey rates proved not higher than the existing concession rates the new rates should be levied. That where the new survey rates proved higher than the existing concession rates, if the holder was the same person who had held in Mr. Pringle's time, the enhanced rates should not be levied for ten years; and, if the holder was the lineal descendant of the person who had held in Mr. Pringle's time, the enhanced rates should not be levied for five years. In cases where the holder had acquired the land in any way except by descent the new enhanced survey rates should be at once introduced. Captain Francis suggested that a statement should be prepared to show to what remissions the different holders would be entitled till the proposed concessions came to an end. [Born. Gov. Sel LXX. 13-15.] The demi-official letter from the Chief Secretary, on the authority of which Captain Francis introduced the proposed settlement into Maval in 1853-54, seems to have taken no notice of Captain Francis' proposals regarding the *palnuk* concessions. The matter was brought to the notice of Government in February 1855. In August 1855 Government decided that the question should be reserved for a

future occasion. [Bom. Gov. Sel. LXX. 55, 63, 65.] At present (1884) there are *palnukdars* in fifty-six villages. Before 1854 the assessment according to *mamul* rates amounted to £318 (Rs. 3180) and the *palnuk* to £136 (Rs. 1360). Under the survey introduced in 1854 the assessment on *palnuk* lands was reduced to £273 (Rs. 2730) and the amount of *palnuk* to £95 (Rs. 950) This represents the sum now (1884) actually recovered from the *palnukdars*. It will thus be seen that the *palnuk* levied under the *mamul* rates was $6\frac{3}{4}$ annas in the rupee or 42 per cent, whereas that recovered under the survey rates amounts to $5\frac{1}{2}$ annas in the rupee or 34 per cent. So that the concession now allowed is more favourable than that under the *mamul* rates. There is an occasional lapse from failure of lineal descendants or in consequence of the Hue of the land to an outsider and the transfer thereof to the purchaser's *khata*. [Collector of Poona, 612 of 26th January 1884.] Government have lately (1881-82) decided that mortgage with or without possession does not amount to such a transfer of the privileged land as destroys the holder's right to the usual remission. At the same time the former opinion seems to be upheld that the privilege ceases on any portion of the land which passes from the holder's name except by lineal succession. [Gov. Res. 6414, dated the 28th of October 1881, and 4C8 of 19th January 1882.]

Landholders, 1821.

At the beginning of British rule the main division of the Poona husbandmen was into hereditary holders called *thalkaris* or *mirasdars* and casual holders called *upris*. Among the hereditary holders Captain Robertson thought there were some whose families dated from pre-Musalman times when they used to hold from a Hindu chief on Manu's rental of one-sixth of the produce. [East India Papers, IV. 529.] The hereditary tenure remained in all villages in the district except in about thirty villages which had never recovered from some great calamity. [Captain Robertson, 10th October 1821, East India Papers IV. 579.] Besides the freedom from the chance of being ousted the hereditary holder had many advantages over the *upri* or casual holder. In the west the hereditary holder was free from several cesses. He could build and sell a house; he had a voice in the village councils; and he had a share in the village grazing land. In the east in addition to these advantages the hereditary holder and his wife had precedence in village ceremonies and his children made better marriages than the children of casual holders. [Ext. Rev. Let. from Bombay, 5th November 1823, East India Papers III. 809.] In 1821 of about 30,600 landholders who paid direct to Government, about 19,700 were hereditary holders

and about 10,900 were casual holders, that is there were about twice as many hereditary holders as casual holders. As regards the proportion of hereditary holders in different parts of the district, Poona City came first with thirteen to one, Haveli and Shivner came second and third each with five to one, Pabal was fourth with four to one, Khed was fifth with five to three, Purandhar was sixth with three to two, Maval was seventh With ten to seven, Bhimthadi was eighth with nine to ten, and Indapur was last with one to three. [East India Papers. IV. 585. The details are:

Poona Landholders, 1821.

SUB-DIVISIONS.	<i>Upris.</i>	<i>Mirasdari.</i>	Total.	PROPORTION.	
				<i>Upris.</i>	<i>Mirasdars.</i>
Bhimthadi	1185	1104	2289	10	9
Poona City	9	115	124	1	13
Indapur	2509	810	3319	3	1
Pabal	683	2504	3187	1	4
Khed	1805	3073	4878	3	5
Purandhar	1431	2160	3591	2	3
Haveli	588	2656	3244	1	5
Maval	1829	2676	4505	7	10
Junnar (Estimated)	869	4600	5469	1	5
Total	10,908	19,698	30,606	1	2

Villages 1821.

All landholders were members of village communities which formed the most important feature of Deccan society. The Poona village communities were miniature states with an organization almost complete enough to protect the members if all other Government was withdrawn. They were an excellent remedy for the imperfections of a bad Government; they prevented the evil effects of its negligence and weakness and even presented some barrier against its tyranny and rapacity. Each village had a portion of ground attached to it which was committed to the management of the villagers. The boundaries were

carefully marked and jealously guarded. The village lands were divided into fields each of which, whether tilled or waste, had a name and well known limits. Except a few traders and craftsmen the villagers were almost all husbandmen. Over each village was a headman or *padtil* with an assistant or *chaughula* and a clerk called *kulkarni* and twelve subordinate servants called *bara balutas*. [Mr. Elphinstone, 1819. Dr. Coats writing in 1820 (29th February) says, 'The township of Loni has its own officers, is governed by its own laws and usages, and is in a great measure independent of all without. Its boundaries and institutions have undergone no alteration from time immemorial; while the great political changes that have been continually going on in the succession of the states it has been subject to, have neither given it much disturbance nor excited much interest. Almost its only intercourse with the Government is the payment of its taxes. Its members are connected with those of the neighbouring townships by intermarriages, and a friendly intercourse is kept up between them. It is commonly left to protect itself from external enemies, and is held responsible for the police within its limits, The officers of the township are two *patils* who are its civil magistrates; the *chaughula* or deputy *patil*; the *kulkarni* or secretary and accountant; and the *bara balutas* are its twelve subordinate servants.' Trans. Bom. Lit. Soc. III. 194-195, Ed. 1877.]

Headman, 1820.

The headman or *patil* [Dr. Coats' account of the Loni village (29th February 1820) in Trans. Bom. Lit. Soc. III. 195-196.] held his office direct from Government under a written paper or *vatan patra*, which specified his duties, his rank, and the ceremonies of respect to which he was entitled; and his perquisites, and the quantity of freehold land allotted to him as wages. In 1820 the *patils* about Poona, generally said they held their *patilship* from the emperor of Delhi, or from one of the Satara Rajas; in Dr. Coats' opinion many were held from the Peshwas, an origin which was not acknowledged because the Delhi and Satara grants were considered more sacred. The *vatan patra* was sealed with the sovereign's seal, had the signature of several witnesses to it, and ended with a curse on any one who should disturb or dispute the rights of the holder. The *patilship* was hereditary and saleable; but the office was looked on as so respectable, and the property attached to it was considered so permanent, that there were few or no instances of its being wholly sold, although, as a means of averting misfortune, part of it had often been transferred by sale. This was the reason why there were two *patils* in many villages, and three or four in some. When there were more than one headman the duties

and rights of the office were divided, according as it might be stipulated in the deed of sale; the original *patil* always kept the precedence. The prominent duties of the *patil* were, along with the village accountant, to ascertain and collect the Government dues from the landholders, and to see they were paid to the persons authorised to receive them; to encourage people to settle in his Tillage; to let out waste lands, and promote agriculture by every means in his power; and to punish offences, redress wrongs, and settle disputes among the villagers. In matters of a trifling nature he decided himself, and punished the offender by stripes or reproof, but was not allowed to fine. In cases of more importance he called a *panchait* or council. Serious, particularly criminal, cases were referred to the mamlatdar or the Government. The *patil* was also responsible for the police of his township. For neglect of duty the *patil* was punished by the Government by fine and imprisonment; but, unless for treason or other serious crime, he was seldom deprived of his office. The *patil* had great power and influence, and did not always make good use of his power. He was sometimes said, in collusion with the *kulkarni*, to impose on the landholders in the settlement of their accounts, and with the *kamavisdar* to cheat the Government. The *patils* were proud of their dignity; all the ceremonies of etiquette and respect they were entitled to were minutely laid down, and they would quarrel with a person for withholding any of their honours sooner than for doing them an injury. A greater proportion of them could write than of the village hereditary landholders. Otherwise, except in knavery, they were not more accomplished, and scarcely differed from them in dress, manners, or way of living. The *patils* paid to Government every twelfth (*sie*) year a tax or *dahak patti* equal to one year's salary.

Accountant, 1820.

The *kulkarni* [Dr. Coats, 29th February 1820, Trans. Bom. Lit. Soc. III. 196-197.] or village clerk kept the numerous village records and accounts. The most important were: (1) the general measurement and description of the village lands; (2) the list of fields with the name size and quality of each, the terms under which it was held, the name of the holder, the rent for which he had agreed, and the highest rent ever yielded by the field; (3) the list of all the villagers whether husbandmen or otherwise, with a statement of the dues from each to Government and the receipt and balance, in the account of each; (4) the general statement of the instalments of revenue; and (5) the detailed account, in which each branch of revenue was shown under a separate head, with the receipts and balance on each. Besides the public records, the village clerk generally kept the accounts of all the

landholders, with each other and with their creditors; acted as a notary public in drawing up all their agreements; and even conducted any private correspondence they might have to carry on, He had lands, but oftener fees, allotted to him by Government from whom he held his appointment.

TWELVE SERVANTS, 1820.

Under the headman were the twelve village servants or *bara balutas*, the carpenter, the ironsmith, the washerman, the barber, the potter, the silversmith or assayer, the idol-dresser, the water-carrier, the shoemaker or currier the rope-maker, the watchman messenger and guardian of boundaries, and the Muhammadan *mulla* or priest. [Trans. Bom. Lit. Soc. III. 197-203, East India Papers IV. 158, 582.] There were also the Brahman astrologer to cast activities and the Brahman priest to attend to religions ceremonies. In some parts of the district there was a village watch composed of Bhils and Ramoshis. [Mr. Elphinstone, 1819, Ed. 1872, 15, and East India Papers IV. 158.] According to Dr. Coats (29th February 1820) the *balutas* were hereditary and held their situation from the township. Their hereditary papers or *vatan patra*, were in the name of the *patil* and township, and were witnessed by several of the villagers. The deed bound the holder to devote his services to the common good, according to custom, on condition that each landholder paid him a fixed proportion of the produce of the soil. The *balutas* also received presents for exercising their particular callings at marriages and other rites and ceremonies. The grant or *vatan patra*, sometimes had the seal and signature of the *deshmukh* and *deshpande* or hereditary district revenue officers, and a copy ought to be lodged with the *deshpande*. The expenses to a *baluta* on his appointment amounted to £5 or £6 (Rs. 50 or Rs. 60) in perquisites and presents. [Trans. Bom. Lit. Soc. III. 197.] The particular duties of the *balutas* were:

Carpenter.

The Carpenter made and kept in repair all wooden field tools, the wood being supplied by the landholder. He was paid 200 sheaves of corn and about 48 pounds (24 *shers*) of grain for every 22½ acres (30 *bighas*) under tillage, and his dinner or a few pounds of grain a day so long as he was engaged in mending field tools. He furnished the marriage *chaurang* or stool on which the bride and bridegroom were bathed. He supplied travellers with pegs for their tents, and for picketing their horses. During two or three days in the year, in return for a dinner, Government, the *deshmukh* or hereditary revenue

superintendent, and the *deshpande* or hereditary revenue accountant were entitled to his services.

Blacksmith.

The Ironsmith or Blacksmith made and kept in repair all iron field tools. He made the sickles, the hoes, and other field tools, and the simple lock and chain which fastened their doors, the villagers finding the iron and the charcoal. For tiring cart wheels, as this was troublesome, he received a money present. He performed the *bagad* or hook-fastening into the back of devotees who swung before Bahiru and Hanuman. He shoed the horses of villagers and travellers, but he was not a good farrier. He every year furnished a set of horse shoes and twenty-four nails to Government who supplied him with iron. He was paid about thirty-six pounds (18 *shers*) of grain on every 22.½ acres (30 *bighas*) or one-fourth less than the carpenter.

Washerman.

The Washerman washed the clothes of male villagers; the women generally washed their own clothes. He spread cloths for the bride and bridegroom to walk on at one of the marriage processions, and for parties to sit on at marriages and other festivals. For this he received special presents. He washed the clothes of travellers, and expected a present for his trouble.

Barber.

The Barber shaved the villagers and cut their nails on a lucky day once every fortnight. He kneaded the muscles and cracked the joints of the headman and village clerk on holidays, and of all travellers of distinction who came to the village. He was the village surgeon, and played on the pipe and tambour at weddings and on other occasions. He did not act as a torch-bearer, as he did in some other parts of the country. When the headman went abroad, the barber went with him, and carried and cleaned his copper vessels; and, on village festivals, with the water-carrier and potter, he acted as cook, and, before and after eating, handed the party water to wash. When the bridegroom arrived at the village to take away the bride, the barber led his horse to the bride's house and received the present of a turban. He trimmed the tails of the oxen at the sowing season and received a present of grain.

Potter.

The Potter supplied the villagers with the baked earthen vessels they used for cooking, for storing spices salt and grain, and for carrying and holding water. He also furnished travellers with such vessels as they wanted. He beat the *danka* a kind of drum, and at marriages repeated verses in honour of Jami an incarnation of Bhavani. At the harvest homes or *davra* he prepared the *barbat* or stewed mutton. He made tiles and bricks, and received a special payment for them. Near Poona potters were freed from the *balut sara* or village servants' rent because they had been of great service in tiling Balaji Vishvanath's house.

Silversmith.

The *Potdar* or Treasurer was always a silversmith. He examined the coins when the taxes were paid; and on satisfying himself they were good, stamped his mark on them, and kept them in his treasury, until enough was received to send to the sub-divisional treasury under charge of an escort of Mhars. When employed as a silversmith he was paid $\frac{3}{4}d.$ to 2s. (Re. $\frac{1}{32}$ -1) the rupee weight according to the workmanship.

Idol-dresser.

The Gurav was the village god-dresser and ministrant. He every morning poured water over the village Hanuman, Bahiru, and Mahadev, marked the brows of Bahiru and Hanuman with sandalwood and oil, and dressed them with flowers. He swept the temples, smeared them with cowdung once every eight days, and every night lighted a lamp in each. At the new-moon he anointed the idol of Hanuman with cinnabar and oil, and Bahiru every Sunday with oil only. Each family in the village gave him daily a small quantity of flour which he made into cakes, and offered at noon to the idols, and afterwards took to his family. During the nine eves or *navratra* that end in *Basra* in September-October he gave each family a handful of flowers to make garlands which were offered to Bhavani. He daily supplied the village clerk with Indian fig leaf platters joined with skewers or *patravalis*, and on festivals he made leaf-plates for all the villagers.

Water-carrier.

The Water-carrier, who was of the Panbhari division of Kolis, kept vessels constantly filled with water at the village office for the use of all Hindus. If as was usual a beggar lived in the building, the water was left under his charge that it might not be defiled. The water-

carrier supplied water to travellers, and for marriages and festivals. He brought food for the persons who were fed by the village, from those whose turn it was to supply it. He lighted the lamps every night at the village office, swept it, and every eight days smeared it with cowdung. When the village was on the bank of a river the water-carrier pointed out the ford to travellers; and when the river was not fordable he took people across on a float buoyed by gourds or inverted earthen pots.

Shoemaker.

The Shoemaker or Chambhar kept in repair the shoes of the villagers, and every year supplied the *kulkarni*, *patil*, *chaughula deshmukh*, and *deshpande* with a pair of new shoes. The other villagers paid him about a rupee a year for making their shoes and supplying leather. He made water-bags, and supplied the cart and plough drivers with leather thongs for their whips or *asod*. He mended shoes, bridles, and other articles belonging to travellers, but expected a present. The skins of all sheep killed in the village were his perquisites. He did not eat beef or carrion, and was allowed to live within the village. His wages were the same as the carpenter's.

Ropemaker.

The Mangs made hemp ropes for the use of the husbandmen, and a strong raw hide rope used in yoking oxen. The husbandmen supplied him with the materials. He castrated bulls in their fourth year. [The bull was thrown down, and a string tied rather tight round the spermatic cord. The glands were then well rubbed with butter and turmeric. and beaten with a tent-peg. Swelling and absorption of the gland soon followed, and the animal was fit for work in a few days. Dr. Coats, 1820, Trans. Bom. Lit. Soc. III. 200-201] He made the muzzle or *muski* worn by oxen when weeding or treading corn. On *Pola* [The *Pola* or Ox Day varies in different parts of the Deccan.] or Ox Day, that is the October or *A'shvin* new moon, the Mangs hung mango leaves on a grass rope across the village gate, the village office or *chavdi*, and the doors of the chief inhabitants. This was supposed to ensure good luck to the village during the year. The Mangs were considered cruel and revengeful. They acted as executioners, and, it was said, might be hired as assassins. They lived outside of the village, and were not allowed to enter the house even of a Mhar.

Watchman.

The Watchman, who was of the caste known as Mhar Dhed or Parvari, although held outcaste, and not allowed to have a house within the village or to enter the house of any of the villagers, had great weight, and was an important member of the community. The number of Mhar families belonging to each township was from five to fifty according to its size. They lived in a hamlet or *mhar-vada* on the east side and within call of the village. The Mhars' duties were various. [The Mhar did everything and had no special calling, He ran errands, kept a current account in his head of the distribution of the village land, and settled boundary disputes for four or five generations preserving particulars of old boundary fights. Capt. Robertson. 10th Oct. 1821, in East India Papers, IV. 582.] The most important were to prevent encroachments on the village boundaries of which they were supposed to have an accurate hereditary knowledge. In boundary disputes their evidence was generally considered conclusive. They gave their evidence by walking round the disputed boundary under an oath, in a solemn and formal manner accompanied by the headman and villagers, who marked their track as they went. They were the bearers of all letters on the business of the township, and generally of all messages. They carried the village rent instalment to the sub-divisional head-quarters. They were present at all councils or *panchajits* involving any hereditary right of the community and their evidence carried great weight. They furnished wood at marriage-feasts, which entitled them to a present of clothes from the bride. They supplied the village headman and his deputy and the village clerk with firewood on *Holi* in February-March and on *Basra* and *Divali* in September-October and in November. They carried the fuel required for burning the dead, and, as a perquisite, were given the winding sheet in which some money was always tied. They carried to the next village the baggage of travellers, except the cooking vessels, clothes, and eatables, which would be defiled and were therefore carried by Kunbis. During their stay at the village they supplied travellers with firewood, cleaned their horses, and watched them during the night. They furnished all guides or *vatade*. They had charge of the village flag and gates if the village had them, and opened and shut the gates morning and evening. Besides, a beadle that is *veskar* or *yeskar* of this tribe was always in waiting at the village office or *chavdi*, and reported to the headman the arrival of all strangers, and all remarkable occurrences. He was told to keep troublesome visitors from the headman and clerk, by saying they were from home or sick; and to protect the village generally from annoyance, by any subterfuge his ingenuity might suggest. He was the official medium of communication between the headman and the villagers. He was responsible that none of the villagers were called on to act as porters out of their turn. He kept an account of the Kunbi

families whose turn it was to supply beggars, Government servants, and others, with their dinners. He attended all travellers during their stay at the village; and all their wants were supplied and paid for through him. The beadle was relieved at stated periods, generally every week. While on duty, he received daily from the *patil* half a cake, and from each of the cultivators one-fourth of a cake at noon, and every evening a helping of porridge or *ghata* from each family ; which was generally more than enough to supply himself and his family with food. The Government and revenue officers, in return for his food, had a claim on the services of a Mhar for a certain number of days in the year; the Government for three months; the *deshmukh* for one month; the *deshpande* for fifteen days; and the *sar-patil* for eight days. During this period they were employed to bring wood and grass, and to look after horses. The service was termed *vapta* (*rabta?*), and was sometimes commuted into a money payment. In each township the Mhars had a plot of freehold land assigned them near their hamlet; this was called *hadhi* or the place of bones where all dead cattle were brought and cut up. They also held another plot of land called *hadola* which paid a small quit-rent. Each of the hereditary families got forty sheaves of corn in the straw, and about eight pounds or four *shers* of winnowed grain for every *sajgani* or thirty *bighas* that is about 22½ acres of corn land. The skin and carcasses of all dead animals, which it was their duty to remove, belonged to them.

The Muhammadan Mulla or priest killed the sheep at sacrifices and festivals; he received allowances of grain and straw, and when there was a Muhammadan place of worship in the village, some land was usually attached to it, of which he had the profits.

Of these village officers and servants the only, two, besides the headman and the accountant, who had Government duties were the silversmith assayer or *potdar* and the messenger or Mhar. [Mr. Elphinstone, 25th Oct. 1819, Ed, 1872, 15, East India Papers IV. 158.] The payments to the village staff were a heavy burden on the people, representing, according to Captain Robertson's calculations, about sixteen per cent of the whole produce. [Capt. Robertson, 10th Oct. 1821, East India Papers IV. 578. He thought that the payments to the village officers were baneful and harassing in the villagers. It was difficult to estimate how heavy a burden they were. He thought them the heaviest drawback to improvement with which the people were burdened. East India Papers, IV. 582.] The leading officers, the headman, his assistant, and clerk, besides their rent-free lands and many complimentary offerings, were paid an allowance or *ghugri* which averaged about seven per cent on the assessment and was

divided among the headman, the assistant, and the clerk. This cess and other offerings were always paid by casual holders but in many villages the hereditary holders were exempt. [East India Papers, IV, 582.] Besides the amounts which were paid to them direct, headmen used considerable sums out of village expenses. These which in former times had varied from six to twenty per cent, under British management had been reduced to 4½ per cent. [Capt. Robertson, 10th Oct. 1821, East India Papers IV. 581.]

Hereditary Officers.

The next officers to whom the villagers had to make payments were the hereditary revenue officers of larger or smaller groups of villages or *tarafs* and some of districts or *subhas*. They were superintendents or *deshmukhs* and accountants or *deshpandes* and some districts had a *desai* besides the *deshmukh*. The higher hereditary officers in cities and towns were styled *shets* and *kulkarnis*. The offices of *deshmukh* and *deshpande* were hereditary and saleable. Except for offences against the state these officers were never set aside or deprived of their emoluments. The Maratha government had sometimes appointed them to do the work of *mamlatdars* but such appointments were only for a definite time and as a special case. They were properly mediums between the collectors of the government revenue and the headmen of the villages. [East India Papers, IV. 582.583.] One of the chief duties for which they were originally appointed was to keep a record of former payments by each village under their charge. In consequence of the farming system few of them had these documents at least in anything like a perfect form. [Mr, Chaplin, 20th Aug. 1822, Bom. Gov. Rev. Rec. 68 of 1823, 170-171.] Their chief duty was to sit in the Collector's office or *kacheri* and act as umpires between the members of the Collector's establishment and the heads of their villages. They were the representatives of the people and in Captain Robertson's opinion were very useful in moderating the demands of the Collector's establishment and in influencing the headmen to admit rightful demands. The mass of the people looked to them with respect. The position of *deshmukh* was the highest position to which a Maratha could rise. The great Maratha chiefs, Sindia Holkar and the Raja of Satara, even Bajirav Peshwa himself, valued the title and the local position and power of a *deshmukh*. Though in no way bound to military service, if a *deshmukh* or *deshpande* joined the army, his sovereign made much of him and gave him good pay and a large establishment. The people's respect for these officers showed no signs of declining. Their claims or *haks*, which were in addition to the Government demand on the village, were large. They were taken in

kind and they sometimes allowed them to remain eight or nine years in arrears. In 1820 their claims represented about 4.83 per cent of the whole demand. Besides their claims on the villages, *deshmukhs* and *desh-pandes* in return for special services were occasionally given rent-free villages which were termed *izafat*. [East India Papers, IV. 587.] Captain Robertson thought them useful so long as they were not allowed to acquire power as Government agents. [Capt. Robertson, 10th Oct. 1821, East India Papers IV. 582-583. Bom. Gov. Rev. Rec. 698 of 1836, 85-86. At least in some parts of the country the hereditary district officers were afterwards (1835) believed to have falsified the village records. Bom. Gov. Rev. Rec. 698 of 1836, 85-86.]

Assessment, 1820-21.

In addition to what they had to pay to the village craftsmen in return for their services, to the heads of the village under village expenses, and to the hereditary district officers in liquidation of their claims, the villagers had to meet the demands of Government. According to Captain Robertson's calculations the Government demands varied from thirteen per cent of the outturn in good land to seventeen per cent in middling land. [East India Papers, IV. 578.] In his opinion, of the whole amount of the Government demand, about nine-tenths belonged to the regular assessment and one-tenth came under the head of cesses. [East India Papers, IV. 576.] Except in some villages where each class of land had a separate rate, which was supposed to have been fixed by Malik Ambar (1600-1626), hereditary holders paid a uniform rate or *dar* which was adjusted by varying the size of the *bigha* in accordance with the quality of the land. In some villages the land was divided into parcels or *munds* each of which paid a fixed rent and some villages had a *thika* or *tika* that is a detailed *mund* settlement where each field in the larger plot had a fixed rent. [Extract Revenue Letter from Bombay, 5th Nov. 1823, East India Papers III. 805.] In the hilly west the rent had been fixed from a glance measurement of the produce or *pahani*, and the Government share was commuted for a money payment according to the crop cultivated. In lands which grew upland or *varkas* crops the Government share was estimated at a half to one-third of the crop which was commuted into a money payment. Some parts of the Paun and Andhar Mavals had traces of a village-rent or *khot* system which had been in force before the introduction of the revenue farming under Bajirav. [Bom. Rev. Letters to the Hon. Court, 23rd Feb. 1822 paras 32-35, and 5th Nov. 1823, East India Papers III. 806. Mr. Chaplin, 21st Nov. 1821 and 20th Aug. 1822 para. 85.] The highest assessment on a *bigha* [Great diversity was noticed in the land measures in use, but in the

former measurements if which there was (1823) any record the *bigha* equalled about three-fourths of an acre. Some partial new surveys had been made by the Marathas with a shorter rod by which the traces of the old survey had been nearly lost. In Poona the use of the *bigha* had been superseded by other measures, multiples of it; and in some places large pieces of land were assessed in the lump at a given sum. These measures were: 20 *mans* equal to a *khandi* ; one *khandi* equal to 20, 30, or 35 *bighas*; one *takka* equal to 48 *bighas*; one *rukka* equal to 5, 8, or 10 *bighas*; one *pakka bigha* equal to 3, 4, 8, and even 15 ordinary *bighas*. East India Papers, III. 805. Mr. Chaplin, 20th Aug. 1822, Ed. 1877, 22. Capt. Robertson (10th Oct. 1821) gives the following as the general standard of the land measure: Five cubits or *hats* and five *muthis* or fists of five different persons made a rod or *kathi* of about 9 feet; 20 square rods one *pand* ; 20 *pands* one *bigha*-, 5 *bighas* one *rukka*; 24 *rukkass* or 120 *bighas* one *chahur* or *takka* ; and six *rukkass* one *khandi*. East India Papers III. 805; IV. 572, 573.] of dry-crop land was 7s. 6d. (Rs. 3 $\frac{3}{4}$) and the lowest was 3d. (2 *as*.) In garden lands the rates varied from 2s. (Re. 1) to £1 10s. (Rs. 15). [Capt. Robertson, 10th Oct. 1821, East India Papers IV. 584. See East India Papers, III. 807.]

Cesses, 1820-21.

According to Captain Robertson's calculations the cesses or *pattis* represented about 1½ per cent of the produce of the district. [Capt. Robertson. 10th Oct. 1821, East India Papers IV. 576, 578.] They were levied both from hereditary and from casual holders. The most unjust or harmful were abolished and besides the house-tax and the tax on callings about twenty-four were kept. [East India Papers, III. 805-806, 810; IV. 622-623.] In Poona the people who paid the *mohtarfa* [*Mohtarfa* comprised house and shop taxes, loom taxes, taxes on traders, taxes on professions, and a house tax from a few landholders, East India Papers, III. 810.] or house and trade tax were classified and assessed according to a very arbitrary estimate of their wealth and trade. The highest class of bankers paid £4 (Rs. 40) and the highest class of moneychangers £3 18s. (Rs. 39); grocers paid £5 (Rs. 50), grain dealers £3 to 6s. (Rs.30-3), and roadside moneychangers and fruit and vegetable sellers paid about a half-penny or ¼ *anna* a day. Except this tax on the shopless hawkers, the rates were light. One serious objection to the tax was that many wealthy traders were free from all charge. The taxes on professions were very unequal, varying from 2s. to £3 (Rs. 1 - 30). [Bombay Rev. Letter, 5th Nov. 1823. Past India Papers III. 810.] Of the twenty-four other cesses which were continued, some were levied on the land, wome on

the village, and some on the individual holder. [In 1821 the greater part of the following twenty-four cesses were found in most villages of the Poona plain country: A Grain Cess, *galla patti*, originally to supply grain for forts and for the government stud, changed to money; a Butter Cess, *tup patti*, changed to money; a Straw Cess, *kadba patti*, changed to money; two Rope Cesses; *ambadi* and *sut patti* changed to money; a Grass Cess, *gavat patti*, changed to money; a Money Cess, *kharch patti*; a Firewood Cess, *karsai patti*, changed to money; a Goat Cess, *Dasra bakra*, its price taken; a Shoe Cess, *charmi joda*, their value taken; New Year's Sesamum, *til sankrant*, levied in cash; Skins, *charsa*, taken in cash; Exchange, *bazar batla* ; Servant Cess, *naukar mane*, changed to money; Saddle Stuffing, *lokar*, taken in cash; Horse Blanket, *jhul*, levied in cash; Contingent Charges, *sadilvar patti* ; small Extra Cess, *bachak patti*; Messenger Cess, *shir patti*, lump sum taken; Curds Cess, *dahi patti*, levied in cash: Oil Cess, *tel patti*, value taken; Watchman Cess, *havaldari*, taken in money; Clerks' Cess, *karkuni*, taken in cash; a *Miras* Cess levied once in three years on hereditary holders. Of those twenty-four cesses ten were found in the hilly west, straw, grass, money, shoe, new year's sesa-mum, firewood, skins, rope, contingent charges, and *mirds* cess. Twenty other cesses were also collected in this part of the district. A Sidi's Cess or *Habshi patti* said to be to keep the Konkan Abyssinians from entering the Deccan; a Beggar's Cess *gosavi patti*; a Ramoshi's Cess; an Extra Cess known as *abhi patti*; a Mango Cess, *ambe dhdli*; an unknown *labbe* (?) *patti*; a Molasses Cess, *gurhal patti*; a Fowl Cess, *kombdi patti*; a Thorn Cess, *kante modnaval*, to make up for a *mamlatdar* whose feet were pricked with thorns; a Kulkarni's Cess; a Survey Cess, *pahani kharch*; an Undefined Cess, *patti*; a Cucumber Cess, *kakdi bhopla* ; a Leaf Shade Cess, *lerdya* (?) *patti*; a Mango Tree Cess, *amba takka*; a Leaf Thatch Cess, *pan tattya*; a Customary Cess, *quinda* (?) *patti*; a Pestle Cess, *musal patti*; a Leaf Dish Cess, *patraval patti* ; and a Deficiency Cess, *kasar patti*. Mr. Chaplin, 20th August 1822 (Ed. 1877), 139-141, East India Papers IV. 622-623.]

There was no city in the district except Poona. But there were eleven towns of respectable size and trade, Chakan, Ghera, Jejuri, Kendur, Khed, Navlakh Umbra, Pabal, Paud, Sasvad, Talegaon Dabhade, and Talegaon Dhamdhere. The houses in these towns were comfortable buildings of stone and mud, covered with tiles; some of them were two storeys high. The chief inhabitants were traders, bankers, and Brahmans both of the Deccan and of the Konkan. In all a good deal of trade centred. The chief manufactures were coarse woollen and cotton cloths, and Poona-made gold and silk cloths which vied in richness with the silks of Paithan. [Capt. Robertson, 1st May 1820, Last India

Papers IV. 405; Bombay Revenue Letter 27th Nov. 1822, East India Pap. rs III. 793-794.] Poona had suffered from the change of government. The general peace all over India took from the bankers their favourite war investments, and all classes of the townspeople suffered from the stopping of the great and lavish expenditure at Bajiravs court. [Capt Robertson, 10th Oct. 1821, East India Papers IV. 588.]

In 1821 the year's revenue was about £135,200 (Rs. 13,51,422) or about 7s. (Rs. 3 $\frac{3}{8}$) a head of the population. Of the whole amount about £109,000 (Rs. 10,89,254) were derived from land [East India Papers, IV. 525. Of about £128,400 (Rs. 12,83,399) the total or gross settlement or *jamabandi* of 1820-21 about £19,400 (Rs. 1,94,145) were deducted probably chiefly on account of remissions and claims. This left as net revenue £109,000 (Rs. 10,89,254),] and *sayar* or miscellaneous sources; £23,600 (Rs. 236,237) from customs; and £2600 (Rs. 25,931) from farms and town taxes. The cost of collecting the revenue was about £9370 (Rs. 93,666) or about seven per cent on the collections; magisterial and judicial charges were about £10,300 (Rs. 1,03,168); the Collector's and assistants' salaries £5100 (Rs. 51,000), and the outlay on militia was £7450 (Rs. 74,418). That is a total expenditure of £32,220 (Rs. 3,22,252) or about 20 per cent of the revenue. [Capt. Robertson, 10th Oct. 1821; East India Papers IV. 525,]

REVENUE SYSTEM, 1820-21.

Under the English system the management of the land revenue centered in the Collector. The Collector was also magistrate and judge of circuit, but his chief duties were, as head revenue officer, to travel over his district, to fix the rental to be paid by each village, as far as possible to take precautions that in each village the whole amount was fairly shared among the landholders, to detect and punish frauds against Government and oppression of the villagers, and by the grant of leases and other privileges to induce the people to bring the arable waste under tillage. At the beginning of a new year, that is in August, the village headmen and clerks prepared returns showing the state of cultivation in the village, the whole amount due to Government, and the share due from each landholder. [When the English system was fairly introduced, the village clerk or *kulkarni* was bound to prepare the six following returns: (1) The *jamin jhada* or land register that is a record of all village holdings and fields and of their holders; (2) the *lavni patrak* or tillage statement showing the amount due by each holder to Government; (3) the *tahsil* or receipt book showing daily

payments by the landholders; (4) the *botkhat* or list of accounts showing the receipts from each holder and what had been done with the receipts; (5) the *jhadti* or balance sheet which was a statement for the village receipts and payments drawn up at the close of the year; and (6) the *mohtarfa yad* or a memorandum of dues on account of house and other taxes. Besides these the village clerk kept memoranda and registers of leases. East India Papers, IV. 587-588.]

When the Collector came to the village or to its neighbourhood, under his immediate superintendence, or, if he was not on the spot, under his orders, his establishment examined the village clerk's statement of the current year and compared it with the settlement of the year before, and, with the help of the district hereditary officers, settled the lump sum which the village was to pay. After 1819-20, when, in addition to the settlement with the head of the village, papers were passed showing what each landholder had to pay and that he was willing to pay it, the Collector's establishment were unable to complete the detailed village settlement. This duty was left to the mamlatdar. [East India Papers, III, 794; IV, 579, 591.] Besides carrying out the detailed or individual village settlement the mamlatdar superintended the collection of the revenue, managed the police, received civil complaints, and referred the complainants to juries or *panvhaitis*, and heard criminal complaints and sent the complainants to the Collector. He had a secretary or *shirastedar* to keep his records, an accountant, and some other assistants. The mamlatdar's powers were limited, and, at least in principle, the system of fixed pay and no perquisites was introduced. The mamlatdar's pay was fixed at £7 to £15 (Rs. 70-150) a month, and the pay of his secretary at £3 10s. to £5 (Rs. 35-50). [Mr. Elphinstone, 1819, Ed. 1872, 30-31, East India Papers IV. 168-169] In carrying out the detailed village settlement the chief duties of the mamlatdar and his staff were to detect frauds in the village returns, and see that the statements corresponded to the actual condition of the village; to discover hidden sources of revenue; to assign to each landholder his proper share of the village rental, and to ascertain that the village officers made no extra levies; to make certain that the villages paid their instalments when they fell due, and that all the revenue was regularly forwarded to and accounted for by the head-quarter office.

As mediators between the Collector's establishment and the village headmen who together fixed the amount of the village settlement, there came the district hereditary officers, who, when the amount of the village rental was being discussed, sat in the Collector's office or *kacheri* and acted as umpires moderating the demands of the

Collector's establishment and persuading the headmen to agree to rightful demands. [Captain Robertson, East India Papers IV. 582-583.] In the early years of British rule one of the chief objects of the revenue officers was to introduce a system which should prevent the village officers or the mamlatdar from taking more than his right share of the village rental from each landholder. As has been noticed in 1818 and 1819 the settlement continued to be made with the headman for the whole village or *mauzevar*. But in 1819-20 a beginning of an individual or *rayatvar* settlement was made by the members of the Collector's establishment ascertaining that each holder knew at what amount the headman had assessed him and admitted that this amount was fair. In 1820-21 the Collector's establishment inquired how much fresh land was taken for tillage; how much land under tillage was kept hid; and whether there were any oesses which had escaped notice in the former year. After these inquiries, on the basis of the last year's settlement, in consultation with the village and hereditary officers, the Collector's staff determined what each village should pay; and the mamlatdar inquired into and fixed the share of the whole village demand which should be recovered from each holder. [East India Papers, IV. 591.] This system was faulty as there was no check on the mamlatdar and no test to prevent collusion between him and the headman in unfairly distributing the individual payments. Accordingly in the next year (1821-22) a system was completed under which each holder received a deed or *pattct*, of what he was asked to pay and passed an agreement or *kabulayat* to pay the amount fixed. [Bombay Revenue Letter 27th Nov. 1822, East India Papers III. 794.] The issue of these individual agreements greatly reduced the power and the emoluments of the village officers who much against their will were relieved of many of their duties. [East India Papers, IV. 582.] Under this new system the settlement was introduced into a village in one of two ways. Either the whole sum due by the village might be ascertained and his share allotted to each landholder; or the shares due to the different holders might be determined and the village rental be found by adding all the shares together. Unless, which was seldom the case, authentic details of the quality and quantity of land in each man's holding were available, it was extremely difficult to fix each man's share. The whole amount paid by the village through a series of years was generally known, and, as a rule, it was best to fix the whole amount in the first instance and from this to allot his share to each holder. The sum fixed as the village rental included all cesses, claims, and village expenses. After fixing the whole amount due from the village, the Collector's staff were expected to allot the shares to the different holders. But this part of the work they were seldom able to complete. It was entrusted to the mamlatdar and his staff under strict

injunctions not to leave it to be done by the district or village officers. In making the Individual settlement the mamlatdar was chiefly guided by the village land statement or *jamin jhada*. This professed to show the state of cultivation of each plot of land in the village. But the statement was generally full of mistakes and frauds; it could not "be trusted until it had been checked by the *shekhdara* or mamlatdar's clerks who made separate returns, by special or personal inquiries on the part of the mamlatdar, by direct examination of the villagers, and by taking advantage of rivalry and jealousy among the families of the headman or village clerk. [The following were among the frauds which were commonly practised by village headmen and clerks. The names of people paying the house-tax were left out; quit-rents leviable from alienated lands were not shown; in other lands something less than the full rental was shown; lands under tillage were entered as waste or as fallow and garden lands were entered as dry lands. Bom. Gov. Rev. Rec. 16 of 1821, 705-729; Appendix to Mr. Chaplin's Report, 20th August 1822, Ed. 1877, 129.] After the main land assessment was fixed a minute inquiry was necessary into the cesses or *pattis*. In all these inquiries the Collectors were enjoined to use and to enforce the utmost caution in keeping the assessment moderate. They were warned that in assessing villages it was better to be below than to be above the proper scale, and that the excessive demand of one year could seldom be retrieved by three years of moderation and indulgence. Great care was required in preparing the landholder's paper or *patta* which was drawn up in a very detailed and elaborate form. [Mr. Chaplin, Appendix to Report of 20th August 1822, gives an example of the deed or *patta* passed to the landholder. Ramji Maratha of Loni in Haveli in Poona for the *Fasli* year 1230 (A.D. 1820-21), you have to pay fifty-six rupees; Of this for three fields of dry land of 25 *bighas*, Rs. 24¾; for three *bighas* of garden land, Rs. 24; a straw cess Rs. 1¼; a buffalo cess Rs. 2; and a house cess Rs. 4; total Rs. 56. This you must pay at the regular instalments and you must not give the *patil* or *kulkarni* any more than this. You have agreed to be security for the payments of the other villagers and any arrears might be recovered by a second assessment. 10th December 1820. In some villages the clause regarding the second assessment was left out.] The people were told when the instalments would fall due and care was taken not to levy any part of the rental until after the crop from which the instalment was to be paid was reaped. [Captain Robertson, 10th October 1821, East India Papers, IV. 580.] No security was required except the general security of making the villagers responsible for each other which was known as chain or mutual security, *janjir jamin*, and which was liable to be enforced by a second settlement. [Appendix to Mr. Chaplin's Report of 20th August 1822, Ed. 1877, 134; Captain

Robertson, 1821, East India Papers, IV, 587.] The passing of receipts for all collections, especially for the collection of the villagers' instalments by the village officers was insisted on, and an entry showing the coins received and the date of payment was required. The coins paid were sent to the treasury with lists made by the mamlatdars in sealed bags attested by the *shirasteddrs*. Each person through whose hands the money passed gave a receipt, the last being the Collector's receipt to the mamlatdar. Copies of the Collector's receipts were kept at head-quarters. [Captain Robertson, 10th October 1821, East India Papers IV. 581.] In the first years of British management the revenue was collected without difficulty. Distraint was almost unknown. It was not allowed when the person who had failed to pay was known to be poor. [Captain Robertson, 10th October 1821, East India Papers IV 526.] In October 1821 only £646 (Rs.6460) were outstanding of which £61 (Rs.610) belonged to 1818-19 and £585 (Rs.5850) to 1819-20. [East India Papers, IV. 526.] Under the Maratha government advances had been made to husbandmen at 12 per cent a year. Under the British in the first years the amount of advances was increased and no interest was, charged [Captain Robertson, 10th October 1821, East India Papers IV, 584.]

Seasons, 1821-22.

The season of 1820-21 was favourable. Cultivation spread and there were no complaints of over-assessment. The only difficulty which occurred was that the headmen of a group of villages in Pabal, finding the individual settlement reduce their power of private taxation, incited the people to refuse to take their deeds or *pattaa*. Before the close of the year the distress which the general establishment of peace caused to the military section of the people of Poona, became more marked, and large numbers who had remained idle in the hope of some more suitable employment, were at last forced to take to husbandry. [Bom, Gov. Rev. Rec, 117 of 1825, 514-515.] From this cause the increase of tillage in 1821-22 was greater than in the previous years. The crops were again good and the average rupee price of grain fell from about 32 to 56 pounds (4.7 *paylis*). [The rupee prices were, 1819-20, 2¾ and 3 *paylis*; 1820-21, 4 *paylis* ; and 1821-22, 6 and 8 *paylis*. Bom. Gov. Rev, Rec. 117 of 1825, 517-518.] The settlement was again made with the individual holders. The fall in the price of grain caused discontent among several sections of the husbandmen. The chief difficulty was in the case of certain villages which had formerly paid a *kharedi galla* a commutation of the money cess into grain for the supply of Maratha posts and forts.

1821-22.

In 1820-21 it had been settled that they should pay in cash on the basis of about 32 pounds (4 *paylis*) the rupee. As the price had in some places gone down to one-half of this or about 64 pounds (8 *paylis*), the alternative was given them of paying in kind but as they objected to grain payments the former rates were continued. So serious a difficulty did the people find in disposing of their grain that the Collector found it necessary to postpone the date for paying the instalment. [Captain Robertson, 20th September 1822, Bom. Gov. Rev. Rec, 72 of 1823, 128; and MS. Selections, 157 (1821-1829) 1st February 1825, Bom. Gov. Rev. Rec. 117 of 1825 515-519.] £1404 (Rs. 14,040) were remitted. [Bom. Gov. Rev. Rec. 72 of 1823, 124, 128, 129.] The land rent including cesses and miscellaneous revenue amounted to £160,100 (Rs. 16,01,000) against £153,635 (Rs. 15,36,350) in the preceding year. After deducting claims or *haks* and village expenses, the net revenue for collection amounted to £139,058 (Rs. 13,90,580) against £134,447 (Rs. 13,44,470); the collections amounted to £133,515 (Rs. 13,35,150) against £132,520 (Rs. 13,25,200); and the outstandings were £5543 (Rs. 55,430) against £1926 (Rs. 19,260). [Mr. Chaplin, 29th September 1823, Bom. Gov. Rev. Rec, 72 of 1823, 36.]

1822-23.

In spite of the cheapness of grain up to September 1822, except in Indapur where a number of the people had returned to their old homes in the Nizam's country, there seemed to be no signs of over-assessment. The value of land was rising and disputes connected with landed property and shares of estates, that had lain asleep for years, had become common and keen. In the two previous years the tillage area had increased by about £80,000 *bighas* yielding a yearly revenue of about £8000 (Rs. 80,000). [Captain Robertson, 20th September 1822, Rev. Rec. 72 of 1823, 224-226.] In spite of the partial failure of some of the crops the harvest of 1822-23 was again abundant. Grain fell to about 110 pounds (13-14 *paylis*) the rupee in the remote parts of the district and to about 80 pounds (10 *paylis*) near Poona. [Bom. Gov. Rev. Rec. 117 of 1825, 522. In 1820-21, the price was 4 *paylis* and in 1821-22 it was 6-8 *paylis*.] There was no mention and no record of such low prices. The fall caused much distress; even those who had reaped good harvests could hardly find a market for their grain. Headed by the *patils* of Pabal, many of whose indirect gains had been stopped by the individual settlement, the people, came in crowds and mobbed the Governor in Poona. The cry of over-assessment was

raised by some of the English officials, but Captain Robertson contended strongly that the only causes of distress were the fall of grain prices and the want of employment and expenditure at Poona. The commutation rate of *kharej galla* or grain, that used to be taken in kind was lowered from about 32 to 64 pounds (4-8 *paylis*). In 1822-23 the realization showed a decline amounting altogether to about one-seventh of the whole revenue. One-fourth of the entire loss was in Indapur from which numbers had move to the Nizam's country.

[Captain Robertson, 1st Feby. 1825, Bom. Gov. Rev Rec. 117 of 1825, 522-528.]

1823-24.

The next year (1823-24) was a season of scanty rain and of distress. The early harvest in about half of the district was fair, in the other half of the district the crops were either chiefly or entirely failures. The late or cold weather harvest was a complete failure. The garden and watered crops were blighted by the east wind. The cattle suffered so severely from want of fodder and want of water that the Collector sent a number of the people to the Nizam's country to stay there till June 1824. Large numbers of the landholders also of their own accord left Poona to take up lands in the Nizam's country and in Ahmadnagar.

[Captain Robertson, Collector, 25th November 1823, Bom. Gov. Rev. Rec. 74 of 1823, 13-16; 1st February 1824, Rev. Rec. 95 of 1824, 3; 1st February 1825, Rev. Rec. 117 of 1825, 529.] What added to the difficulties of the people was that in spite of the failure of crops grain continued extremely cheap. [Mr. Pringle, 29th January 1824, Bom. Gov. Rev. Rec. 95 of 1824, 6-15. Mr. Chaplin, 10th October 1825, Bom. Gov. Rev. Rec. 117 of 1825, 404.] The Collector and the Commissioner agreed in recommending the greatest moderation in levying the revenue, and their views met with the full approval of Government. Remissions were granted varying from 25 to 75 per cent and in some cases the whole demand was foregone. [Mr. Chaplin, 29th November 1823, and Gov. Letter 1856 of 11th Dec. 1823, Bom Gov. Rev. Rec. 74 of 1823, 11-12, 17. Captain Robertson, 1st and 4th February 1824 - Mr. Chaplin, 5th February 1824; and Gov. Letter 319 of 23rd February 1824. Bom. Gov. Rev. Rec..95 of 1824, 1-41.] The distress continued in 1824. The usual May showers failed and there was very little rain either in June or in July. Grain which throughout the cold season had kept wonderfully cheap, now rose from about 80 to 32 pounds (10-4 *paylis*) and then to about 20 pounds (2½ *paylis*). [Bom. Gov, Rev. Rec. 117 of 1825, 528-530.] In 1823-24 the total revenue for collection amounted to £91,556 (Rs. 9,15,560) against £120,827 (Rs. 12,08,270) in 1822-23; the collections amount-ed to

£73,091 (Rs. 7,30,910) against £103,788 (Rs. 10,37,880), and the outstandings amounted to £18,465 (Rs. 1,84,650) against £17,039 (Rs. 1,70,390) in 1822-23. In 1823-24 the very large sum of £40,747 (Es.-4,07,470) was remitted. [Bom. Gov. Rev. Rec. 117 of 1825, 416, 473.]

1824-25.

At the close of the hot weather of 1824 large sums were granted in advances. The people met the efforts of Government to lighten their distress by showing the greatest industry and emulation in preparing and sowing their fields in June 1824. But again the rain failed except in the west where the harvest was good. In the centre and east the early harvest came to nothing, the late crops which were green and promising till November dried from want of rain and dew and yielded almost no return. [Bom. Gov. Rev. Rec. 123 of 1825, 337-339; Rec. 117 of 1825, 405, 537-538.] Before February of 1825 the people had deserted the country. Their cattle were almost all dead and in many villages the great drought had left no drinking water. Still the spirit of the people was not broken. The rainfall had been so slight that even the weeds had died and the fields were ploughed and clean ready to be sown when the rains of 1825 came. [Bom. Gov. Rev. Rec. 117 of 1825, 537-538.] The people were reduced to the greatest distress. Most of their cattle were dead. Grain had risen to high rates, [The price of the necessities of life had nearly doubled.' Mr. Pringle, 8th March 1825, Bom. Gov. Rev. Rec. 123 of 1825, 366-367.] and in sowing the early and late crops of 1824, both of which had failed, they had incurred heavy expenses. [Bom. Gov. Rev. Rec. 123 of 1825, 366-367.] Except from the west in 1824-25 little or no revenue was realised. [Bom. Gov. Rec. 117 of 1825, 473-476, 538; Rec. 123 of 1825, 337-339.]

1825.

During these years of failure of crops and distress a somewhat hot correspondence passed between the Collector and the Commissioner as to whether the distress was to any considerable extent due to over-assessment. At first Captain Robertson stoutly protested against the view that any of the depression was the result of over-assessment. But as troubles increased in February 1825 he admitted that the demands might have been greater than the people could well meet. He fully agreed with the Commissioner that to help the people to rise from the low state into which they had fallen, would require most generous and tender treatment. At the same time he thought that besides the failure

of rain one chief cause of distress was what has already been noticed, the change in Poona; the stopping of the old flow of expenditure and the closing of the large numbers of openings connected with the court and with the army and the decline in the old demand for the produce of the city craftsmen. [Capt. Robertson, Feb. 1825, Bom. Gov. Rev. Rec. 117 of 1825, 473-476, 531 534]

Towards the end of June 1825 Bishop Heber travelled from the Konkan by the Bor pass to Poona. He noticed an excellent bridge of thirteen arches which had just been finished over swampy ground near Karli, simple but extremely solid and judicious. [Heber's Narrative, III, 114.] In the west the cottages were small and mean with steep thatched roofs and very low side-walls of loose stones and there was a general appearance of poverty in the dress and the field tools. Still the cattle were larger and better bred than those of Bengal and these in better ease than might have been expected after the long drought which in the eastern districts had amounted to famine with its dreadful attendant evils of pestilence and the weakening of moral ties. [Heber's Narrative, III. 110, 121.] Making due allowance for the drought and scarcity of several years Poona in 1825 seemed to thrive under its present system of government. The burdens of the peasants were decidedly less in amount and were collected in a less oppressive manner than under the old monarchy. The English name was popular with all but those who were inevitably losers by their coming, the courtiers of the Peshwa, such traders as lived by the splendour of his court, and, though this does not appear, the Brahmans. The body of the people were very peaceable and simple, of frugal habits and gentle disposition. Perhaps in no part of India was crime so rare. [Heber's Narrative, III. 121 -122.] The share of the produce taken by Government was said to be high, at least one-fifth. Government wished to introduce a permanent settlement but said that until they had a fuller knowledge of the country they should run the risk of doing greater injustice and occasionally greater evils by the change than any they could apprehend from the present system. [Heber's Narrative, III. 122-123.]

1825-26

In November 1825 *bajri* was selling at about 26 pounds (13 *shers*) and *jvari* at about 32 pounds (16 *shers*) the rupee. [The Collector, 17th Nov. 1826, Bom. Gov. Rev. Rec. 175 of 1827, 8-9.] Compared with the famine year of 1824-25 the realizable land revenue for 1825-26 showed an increase from £29,203 (Rs. 2,92,030) to £70,132 (Rs. 7,01,320), and the total realizable revenue including miscellaneous

customs and other items, from £56,623 (Rs. 5,66,230) to £101,911 (Rs. 10,19,110). Of £70,132 (Rs. 7,01,320) the land revenue for 1825-26, £60,860 (Rs. 6,08,600) were collected and £9,272 (Rs. 92,720) left outstanding. Of the total revenue for collection £90,065 (Rs. 9,00,650) were collected and £11,846 (Rs. 1,18,460) left outstanding. [Bom. Gov. Rev. Rec. 175 of 1827, 2-3.] In August 1827 Government authorized the Collector to grant remissions in his district for 1825-26 to the amount of £5,987 (Rs. 59,870) and to write off £14,762 (Rs. 1,47,620) as an irrecoverable balance in 1823-24 and £7,414 (Rs. 74,140) as an irrecoverable balance in 1824-25. [Gov. Letter 1556 of 27th August 1827, Bom. Gov. Rev. Rec. 175 of 1827, 75.]

1826-27.

In November 1826 the Collector wrote, ' For two more years the people will continue to be crippled by their losses in 1823-24 and 1824-25. Government must submit to grant them liberal consideration for some time to come. The scarcity of cattle is still considerable, and those who require cattle have not money enough to buy them at the present high rates. Time and indulgence can alone remedy these misfortunes. [Bom. Gov. Rev. Rec. 175 of 1827, 8-9.]

The rains of 1826 were moderate and partial. In some places the fall was favourable, and the outturn large; in other places one sowing and in a few instances two sowings failed. The early harvest was fair, but the late crops which promised well were greatly injured by a blight. [The Collector, 10th August 1827, Bom. Gov. Rev. Rec. 174 of 1827, 403-405.] Still the season was on the whole above the average. *Bajri* fell to about 52 pounds (26 *shers*) and *jvari* to about 64 pounds (32 *shers*) the rupee, [Bom. Gov. Rev. Rec. 175 of 1827, 8-9.] and the state of the people was greatly improved. They had replaced the bulk of their cattle and in the rains of 1827 were able to undertake their field labours briskly and with confidence. Aware of the efforts the people were making to stock their farms, the Collector granted liberal remissions wherever there had been a failure of crops. [The Collector, 10th August 1827, Bom. Gov. Rev. Rec. 174 of 1827, 403-405.] Compared with 1825-26 the land revenue for collection for 1826-27 showed a decrease from £115,472 (Rs. 11,54,720) to £111,019 (Rs. 11,10,190), and the total revenue for collection including miscellaneous customs and other items a decrease from £156,697 to £153,039 (Rs. 15,66,970-Rs. 15,30,390). [These figures include the four sub-divisions of Sholapur, Mohol, Indi, and Muddebihal, Bom. Gov. Rev. Rec. 174 of 1827, 403, 409-411.]

1827-28.

The season of 1827 began favourably. Writing in August the Collector says, 'Another season such as this promises to be will restore the people to the state of comparative well being which they enjoyed before the bad years of 1823 and 1824. [The Collector, 10th August 1827, Bom. Gov. Rev. Rec. 174 of 1827, 403-405.] Later on the prospects of the year became overcast. The season on the whole was bad. In many sub-divisions there was little rain and in many others promising crops were ruined by excessive moisture. Compared with 1826-27 the land revenue settlement for 1827-28 showed a decrease from £131,185 (Rs. 13,11,850) to £125,562 (Rs. 12,55,620), and remissions showed an increase from £20,166 (Rs. 2,01,660) to £37,971 (Rs. 3,79,710). [Bom. Gov. Rev. Rec. 212 of 1828, 222-224.] The failure of crops and distress were specially great in Indapur. Many of the people in despair had left their homes. In spite of the liberal terms offered by Government there seemed no improvement. Everywhere in Indapur were signs of desolation. In other parts of the district as well as in Indapur the bulk of the husbandmen were completely in the hands of the moneyleaders or *savkars*, who, and not the people, reaped any profit which accompanied high grain prices in bad seasons. [Mr. Richard Mills, Collector, 23rd September 1828, Bom. Gov. Rev. Rec. 212 of 1828, 225-228.]

1828-29.

The year 1828-29 was a season of partial failure chiefly in Bhimthadi and Purandhar. [Bom. Gov. Rev. Rec. 352 of 1831, 102, 103, 109, 113.]

Revenue System, 1828-29.

Of the system of settling the revenue which was in use in 1828 the Collector Mr. Blair has recorded the following detailed account. [Mr. Blair, Collector, 643 of 9th December 1828.] Early in the season (October and before November 15th) the mamlatdars start on tour round their sub-divisions to ascertain what land in each village is under tillage. When the mamlatdar reaches a village, he summons the landholders, and, in the presence of the village officers, inquires and records the area which each holder has taken for the early tillage or agrees to take for the late harvest. If in consequence of disputes the tillage of any village is declining, the mamlatdar settles the disputes, and, if the cause of the decline is the poverty of the people, he gives advances. In November when the early harvest is ripening the

mamlatdar makes a second tour round his charge to see the condition of the crops and ascertain whether the actual area under tillage is more or less than the holders engaged to take. The Collector generally receives the mamlatdars' reports in December when the early crops are being reaped and the late crops are well advanced. When all the mamlatdars' reports have been received, the Collector and his establishment or *huzur kacheri* start through the district. On reaching a sub-division the Collector calls the landholders to appear before him at two or three convenient places according to the size of the sub-division. The first business is to ascertain how far the cultivation and the state of the crops correspond with the mamlatdar's accounts. This is ascertained by comparing the accounts of the mamlatdar's clerk or *shekhdar* with the reports of the village officers and villagers and every here and there by an actual examination of crops. If the cultivation is the same as in the last year and no failure has occurred among the landholders, rents remain unchanged. In case of an increase or a decrease the amount is either added to or taken from the former total. When the area of land under tillage and the whole rent due by the village have been ascertained, a *mauzevar patta* or village deed is given to each headman and registered by the village clerk, showing the full amount of rent to be paid by the village. When in this way every village in a sub-division has been settled, the *kulvar* or personal settlement with the individual landholder is begun. This individual settlement is carried out by the Collector and his establishment with the help of the mamlatdar who calls together the landholders of four or five of the nearest villages, ascertains the area of land held by each man and its rent and gives each landholder a deed or *patta* signed by the Collector. In this deed every field which each man holds and its rent for the year is entered. In many villages the greater part of the people hold the same fields for several years; as a rule in not more than one-fifth of the cases is a change required. When the Collector has finished the first four or five villages, he moves a few miles, summons the landholders, and settles their rents; and goes on moving from place to place till he has finished the sub-division. The practice of first fixing the whole sum due by each village greatly reduced the labours of making the individual settlement. The village officers knowing that a certain sum was to be levied from their village, except perhaps in the case of a few of their own relations gave every assistance to make a fair distribution among the land-holders, and, for the same reason, the people agreed without much difficulty to their shares. As the discovery of every case in which land was fraudulently held rent-free, reduced the share of all other holders, a regard for their own interests encouraged the people to give information of many frauds. It was also of advantage to fix the individual assessment as

late in the year as possible as the actual outturn of each man's crops could then be known. Mr. Blair ends his account with the remark that the system undoubtedly acted as a tax on industry as each man had to pay according to the character of his crops. The only remedy seemed to be to introduce a survey under which each man would pay according to the quantity and quality of his land and not according to the outturn of his crop. In the individual settlement much was left to the agency of native servants. This agency could not be dispensed with. When properly controlled, no serious evil resulted from its employment, and the minute process that was gone through every year made the most trifling abuse liable to detection. [Mr. Blair, Collector, 643 of 9th December 1828.]

MR. PRINGLE'S SURVEY SETTLEMENT, 1829.1831.

About 1825 Mr. Pringle the assistant collector of Poona was appointed to survey the district and revise the assessment. [In 1826-27 the revenue survey was in progress in the Poona district. Bom. Gov. Rev. Rec. 174 of 1827, 408.] Mr. Pringle finished the survey and assessment of Shivner or Junnar, Pabal and Indapur, and reported the result to Government in September 1828. [Mr. Pringle's Report (Lithographed) dated 6th September 1828, about Junnar pabal and Indapur.] In the principle he adopted for framing his assessment, in one material respect Mr. Pringle departed from the principle followed by Sir Thomas Munro in the ceded districts of Madras, and, so far as Mr. Pringle was aware, from most other settlements hitherto undertaken either under Native or European Governments. From time immemorial the foundation of the land tax: in India had been a share of the gross produce of the soil. The proportion varied at different times and under different rulers, but the principle was always the same. [The principle of a share in the gross produce is found in the institutes of Mann and in the precepts of the Hedaya, and in the theory if not in the practice of every government which has attempted to methodize the assessment by fixed rules. It was the principle professed by Akbar's minister Todar Mal in Hindustan (1560-1600) and by Malik Ambar (1600-1626) and it was that also adopted in the ceded districts of Madras where it was the declared opinion of Sir Thomas Munro, an opinion in which he has been followed by almost all succeeding revenue authorities, that the exaction of one-third of the gross produce by government would be sufficiently moderate to enable every landholder to derive a rent from the land he cultivated. Mr. Pringle, 6th September 1828 para 5.] In Mr. Pringle's opinion the proportion of the gross produce which could be exacted without absorbing the whole of the rent, varied with the numbers, wealth, and

skill of the people. Mr. Pringle thought that it was not unlikely that at the time when Sir Thomas Munro wrote, two-thirds of the produce may have been a sufficiently large share to leave to the landholders of the ceded districts as rent. At the same time Mr. Pringle thought that it could hardly have escaped Sir Thomas Munro's attention that while an assessment of one-third of the gross produce might leave a sufficiency to the holder of land whose net produce equalled half of its gross produce, it must exclude from cultivation soil whose net produce is only a fifth of its gross produce. In Mr. Pringle's opinion the surplus which remained from the gross produce after deducting all tillage expenses, was the only fair measure of the power of land to pay an assessment. At the same time, as the relation of the surplus to the whole produce varies in different soils, any tax proportioned to the gross produce must be unequal to the extent of the variation between the net produce and the whole produce, and this inequality by creating an artificial monopoly in favour of the best soils, would tend to check production and to take more from the whole body of the people than it brought into the treasury. He thought that by proportioning the assessment to the net produce, and keeping that proportion moderate, the productive powers of the country would be preserved intact and land would become valuable. [Mr. Pringle, 6th September 1828 paras 7, 40.] On these considerations Mr. Pringle held that in every case his assessment should rest on the net produce of the land, and that, whatever might be the difficulties, all his inquiries should be directed to find out the amount of the net produce. He accordingly made it his first object to class all soils as nearly as possible according to their net produce, that is the portion of the money value of the average gross produce which remains after deducting the whole cost of tillage and other accompanying charges. To determine the amount of the net produce Mr. Pringle appointed assessors and took the evidence of intelligent landholders. The lands were first arranged according to their quality in classes, varying in number with the varieties of soil in each village, but seldom exceeding nine in dry land and three or four in garden and rice land. When more than one variety of soil occurred in the same field, the field was classed according to its average quality. The lands were classed under the advice and with the help of the landholders themselves whose local knowledge made them the best judges of the relative powers of the different fields in their own village. At the same time the assessor availed himself of the opposite interests of the holders, and the experience derived from other villages, to prevent unfairness or partiality. When the classing was completed, the assessor proceeded to observe and record the distinguishing characteristic of each class. Next, from the evidence of the most experienced and intelligent landholders, he ascertained what crops

were usually grown in each field, the most approved rotation of crops, the average amount of produce in ordinary years, and the several items of expense incurred according to the system of cultivation usually adopted by landholders in middling circumstances. In tracing each item of expense no point, however small, was omitted which might appear likely to contribute to the accuracy of the result. When circumstances admitted it, the evidence in regard to the amount of produce was verified by cutting crops in different soils and comparing their outturn with the alleged produce of land in similar villages. In all estimates either of produce or of cost where grain was turned into money, the change was made at the average price of grain during a series of twenty years taken from the books of the village Vani. If accounts for twenty years were not available, the average for the whole period was fixed on the proportion which the prices in the years for which they were procurable, bore to the prices during the same years in the nearest market village. In the few villages where there was no Vani the prices were taken from the nearest village where there was a Vani, and if the distance was considerable, an allowance was made for the cost of transport and duty. In fixing the average prices care was taken to avoid relative inaccuracies in the prices of different villages by making all the extracts for the same years and months and by examining and comparing the local weights and measures. In computing the cost of cultivation the number of bullocks required to till each kind of soil was ascertained by an estimate of their daily work, and the yearly acre charge was calculated with reference to their food, their ordinary price in the neighbouring markets, the interest on their original cost, the number of years for which they usually lasted, and the cost of insurance against casualties. The acre cost of manual labour was in like manner fixed with reference to the number of hands required to cultivate a given quantity of land, and their wages in money and necessaries at the current rate of hire in the village. The same minuteness was observed in calculating the cost of seed, of manure, of field tools, of craftsmen's and other village fees, of the usual sacrifices and offerings, in short of every item of labour or stock which could form a charge on the produce before it was brought to market. Interest at the current rate exacted on fair security was calculated on all advances which did not yield an immediate return and in all cases of risk a fair allowance was made for insurance. All these items, together with the reasons and authorities on which the estimate rested were ascertained and recorded by the assessor in the fullest detail in each class of soil in every village. The difference between the money value of the gross produce and the cost of cultivation in each class formed a standard by which its power of paying assessment was brought into comparison with the rent-paying power of any other part

of the country. When the measure of relative assessment was determined, the next process was to fix the actual assessment. This actual assessment was fixed on the basis of past collections. The assessor secured the revenue accounts of the village for as many years as possible and ascertained the area of assessable land in *bighas* or other local measure, which was cultivated in each year, and the amount of money collected on it. As the local measures varied in area in almost every field, the next step was to turn them into acres. The local measures were easily turned to acres where the accounts had been kept in detail, as the names of the fields actually in cultivation in each year were given and their size could be known from the present survey. Where as was much oftener the case the old accounts did not give the names of the fields, only an approximate estimate of the area could be made. To make this approximate estimate of area it was assumed that in cultivation preference was generally given to the better classes of land, and the average number of *bighas* to each acre in each class having been ascertained from the survey, the number of *bighas* cultivated in any particular year was converted into acres at that proportion, beginning with the highest class, and descending through the other classes until the whole recorded cultivation was accounted for. In applying the recorded amount of assessment to the area of cultivated land, all cesses and payments of every description, excepting fees to village craftsmen which were already denoted in the charges, were included in the rental or *jama*. No allowance was made for remissions on account of individual poverty nor were detached cases of leasehold or *kauli* land and its assessment taken into account, because these had reference to temporary and partial considerations which ought not to influence the general conclusions. When the number of acres cultivated in each year and the amount of assessment were ascertained before any final inference could be deduced, the quality of the land under tillage had to be ascertained. In former assessments the necessity of ascertaining the quality of the land had been overlooked. Formerly the average of past collections from cultivated land had without limitation been taken as a guide for the future, though it was obvious that the rate levied from the cultivated portion which was generally the best in the village, if applied indiscriminately to the whole land, must often be more than it was capable of paying. In order to avoid this mistake the cultivated land in each year was arranged in the classes fixed by the survey either where that was possible by ascertaining the fields actually cultivated or, if the actual fields could not be ascertained, by assuming that a preference had been given to each class of land in proportion to its inherent value. When the whole land was so arranged, it was reduced to the standard of the first class by allowing a deduction in the nominal

number of acres in each class in proportion to the amount by which its qualities fell short of the qualities of the best class. Thus where there were twenty acres of the second class cultivated and the proportion of the net acre produce in the class was about half of the first class, the twenty acres were rated in the estimate as ten acres. The number of acres cultivated in each year being thus estimated in land of the best quality, their sum, divided by the recorded amount of collections, gave the acre rate in such land for that year, and the average rate for the whole series of years was the rate of assessment on the best land of the village as fixed from past collections. When this rate was adjusted to each of the inferior classes of land in the proportion of its net produce, it accurately showed the rates for those classes with reference to the same data. When the assessor had gone through all of these calculations and the result was fully recorded along with the authorities on which the result was based, his share in fixing the rates was completed. It only remained for him to arrange and prepare the general registers of tenures and land divisions which were required for the full development of the system in detail. The effect of the assessor's operations was, in proportion to their net produce, to distribute over the whole lands of each village the average amount of its former payments. The work then passed to the head assessor whose business was to examine and check the operations of the assessor and to compare and combine them with those of other assessors in other villages. With this view the classification was inspected and the complaints of the landholders, if there were any complaints, were heard and investigated. A close scrutiny was instituted into the detailed estimates of gross produce and cost of tillage, and also into the rates of assessment drawn from past collections with all the reasons, records, evidences, and authorities, on which each estimate was based. This inquiry was carried on with particular care in cases where the proportion of the rate of past Collections to the net produce compared with the proportion in other villages and with the actual condition of the village itself gave reasons to suspect inaccuracies. When the proportions did not agree, the apparent error had to be traced to its source and the inconsistency either explained or rectified. When the work of the assessor had been examined and found satisfactory, it was confirmed by the head assessor. As soon as the accounts of all the villages in one or more groups were completed, the head assessors proceeded to combine and generalize the results with the object of equalizing the rates of assessment in different villages, which, as they had hitherto been calculated independently in each village from its past payments and these were liable to be affected by a variety of accidents, were frequently very unequal. In the operation of equalizing the rates the

head assessor performed for the villages of a group what the assessor had performed for the fields of each village. He distributed among them in the proportion of their net produce the total average amount ascertained to have been realized from the whole. This was effected by calculating the amount of net produce and assessment of all the land in the group at the rates fixed for each village by the assessors. The amount of net produce divided by the assessment gave the average proportion of the assessment to the net produce in the whole group. This being applied to each class of land in every village, determined the accurate rate of assessment for that class, with reference to the rest of the land in the same group and to the past payments of the whole. All proceedings of the assessors and head assessors were revised in Mr. Pringle's office with as much care and attention as the minuteness of detail and the variety of matter allowed. The mode in which the general principles had been followed was inquired into. The information collected and the facts observed and recorded under similar circumstances were compared. The value of the evidence, the authenticity of the accounts and the reasons for the several operations were weighed and considered. The complaints of the holders were heard and investigated, and, where necessary, the fields were inspected. If in the course of these inquiries any important error was detected, it was corrected. When the accounts had undergone this final revision, Mr. Pringle compared the proportion of the rate of assessment to the net produce with that in other groups. He invited the opinions of the hereditary district officers and of others who were either acquainted with the past and present revenue administration or whose opinion was worthy of respect from their general information and intelligence. Mr. Pringle procured such information as he could in regard to the former history and present resources of the group or *pargana*, and, on a consideration of these points and of the general changes in the country, he determined to confirm the settlement of the head assessors or to raise or to lower it as circumstances suggested. If the assessors' rates were either raised or lowered, the change was made by the increase or deduction of a uniform proportion of all the rates.

The available sub-divisional details of this survey and assessment are given below. The Battlement was introduced in Shivner now Jnnnar, Pabal, Indapur, Bhimthadi, Purandhar, and Khed in 1829-30, and in Haveli and Maval in 1830-31. It caused a reduction of 11½ per cent in Junnar and Pabal, and 25½ per cent in Khed; and an increase of 76½ per cent in Indapur, 13¼ per cent in Bhimthadi, and 27½ per cent in Purandhar. No information is available regarding the effect of Mr. Pringle's survey in Haveli and in Maval.

Shivner, 1828.

The Shivner or Juanar sub-division was the most northern in the district. It stretched from the Sahyadris about forty miles east with an average breadth of about fifteen miles. The west was hilly and rugged, crossed by valleys running between the east-stretching hills. Towards the east and south the country became more level, and, in the Ala and Bela groups, opened into broad plains. Along the north a range of hills ran inland, and beyond the hills the limits of the sub-division spread over a rough and bushy country, till it joined the Ahmadnagar Collectorate in the valley of the Mula. Junnar contained 178 Government and thirteen alienated villages. Exclusive of hills and rivers the measured area of the Government villages was 336,408 acres. The soil was in general good and well tilled. In the valleys near the Sahyadris, where the supply of rain was abundant, rice, *nachni*, *khurasni*, *sava*, and other hill grains were grown, and in the eastern plains good millet and *hulga* crops were raised in the lighter soils mixed with pulse as rotation crops in the best land. The most valuable produce was wheat and gram of which very fine fields were grown especially near Umraz and Otur where the soil was perhaps about the best in the Deccan. The land was usually worked with a four or a six bullock plough, which in the best soil was used only once in two or three years, the harrow being employed in the intermediate seasons. The inferior soils were ploughed every year. Manure was applied liberally to the best but not to the poor lands. 1473 acres of garden crops were watered from wells. In general the profit from garden tillage was not high and from want of capital some of the gardens had fallen to ruin. Near the town of Junnar were some valuable plantain and vegetable gardens whose produce found a ready sale in the Junnar market. These Junnar gardens had hitherto paid an acre rent of £4 (Rs. 40), the highest rent Mr. Pringle knew of in the Deccan. But they had been rather over-assessed. No land was watered from ponds in Junnar and none of any consequence from rivers except in Narayangaon where a fine lately repaired dam watered 415 acres of the best garden land. In the western valleys the rice depended on the rainfall which was generally certain and plentiful. The acre outturn was large compared with the produce of the dry lands but the cost of tillage was heavy as the work was chiefly done by hired labour. In the open villages near the west in ordinary seasons the supply of rain was sufficient, but in the eastern plain the supply was precarious and the villages were less flourishing. There were no large towns. Junnar, Narayangaon, and Otur were the places of most note, but none of them had over 8000 people. The local demand for produce was trifling, the greater part of the harvest went to Poona or occasionally to

Bombay. The village records showed in Government villages 6457 landholders, but the actual number of holders was greater as fields were sometimes held jointly. Of the whole number entered in the accounts, 4846 were hereditary holders or *mirasdars* and 1611 were casual holders or *upris*. In no part of the Deccan were the rights attending the hereditary tenure or *miras* more distinctly recognized. Almost every village had deeds of sale and mortgage, generally of old date, and when the land was valuable it was occasionally the subject of contest. [Mr. Pringle, 1828, para 50. In the three subdivisions Junnar Pabal and Khed the greater proportion of the landholders were *mirasdars* attached to the soil. The Collector, 4th Sept. 1830, Bom. Gov. Rev. Rec. 352 of 1831, 125.] In the Open east the husbandmen were chiefly Maratha Kunbis, and in the West Kolis. The Kunbis were the more intelligent, but their hardy simple habits fitted the Kolis for the work of tilling the hilly and rainy west. In the richer villages land was sometimes held on mortgage by Brahmans and traders who tilled them either by hired labour or by arranging to have a Kunbi as managing partner. Of late years such speculations had become less frequent, it was said, because profits had decreased.

Pabal, 1828.

The Pabal subdivision lay close to the south of Junnar. Its lands did not pass so far west as the Sahyadris, where, and to the south it was bounded by Khed and to the east by Ahmadnagar. In produce, style of tillage, water, markets, people, and tenures Pabal closely resembled the open parts of Junnar. The chief points of difference were that the land was not so rich and that the proportion of late or *rabi* crops was smaller. The richest villages were to the north-west in the Mhalunga group. To the south-east also the land was good but the supply of rain was uncertain, and much distress had been suffered and much land had fallen waste in the recent unfavourable seasons. There were fifty-four Government and eleven alienated villages. The Government villages included 184,896 acres with 3249 landholders of whom 2397 were hereditary and 852 were casual.

Shivner-Pabal.

Except parts of the hilly west Shivner and Pabal had formerly been included in the district or *subha* of Junnar, which, from its cession by the Moghals in 1720 until the latter years of Bajirav's government (1817), was for long periods entrusted to the same managers or *subhedars*. One of these officers Hari Damodar had remained in charge for forty-five years. The subordinate managers of village groups or

tarafa were also appointed under head-quarter deeds or *huzur sanads* and were continued during good behaviour. Their local knowledge and experience made them so useful both to the government and to the people that they were rarely removed, and at one time had almost the character of hereditary officers. West Shivner was later of coming to the Marathas. It formed what was termed the *taluka* of Shivner most of whose revenues were assigned for the maintenance of the local hill-forts and garrisons. Like the more eastern parts these villages had been managed by the same officers during long periods. Under the Marathas before the time of Bajirav, subordinate agents called *havaldera* or men in charge, agreed to pay the head manager or *subhedar* a lump sum for a group of villages and made a detailed settlement either with the heads of villages or with individual holders. Hereditary holders or *mirasdars* paid full or *sosti rates*, and casual holders or *upris* paid short or *ukti* rates. When the settlement was made in a lump sum with the village head, what fell short on the lands of the casual holders was made good by an extra levy on the lands of the hereditary holders. As they were seldom closely examined, the group manager or *havaladar* was generally able to protect himself by showing in his returns something less than the actual area of full rent or *sosti* land. Though under this system much of what was taken from the people never reached government, the country was on the whole well tilled and the people were much more flourishing than at later periods when the assessment was more moderate. The long terms during which men remained in charge of districts and of village groups, made them interested in the prosperity of their villages. They occasionally united the character of banker with that of revenue manager and were liberal in their advances and loans, and, on the credit of their long-continued position as managers, in bad seasons they were able to raise funds to meet the demands of the district manager or *subhedar* without pressing the landholders. In this way by working together with the landholders and by keeping their accounts open for a series of years, the group managers were able to make good their advances at the time when extra payments were least burdensome to the people. This system continued with little change until the accession of Bajirav in 1796. Under Bajirav the old managers were removed on the slightest ground and other evil changes were introduced. Then followed in 1802 the irruption of Yashvantrav Holkar which caused desolation in Junnar, though the ruin was not so complete as in some other parts of the Deccan. After the restoration of Bajirav by the treaty of Bassein, attempts were made to return to a better plan of government, but these attempts were soon abandoned for the ruinous system of revenue contracting.

When the British assumed the management of the country Junnar and Pabal were at first included in Ahmadnagar. Pabal was soon transferred to Poona, but till 1821 Junnar remained in Nagar. In Junnar at- in most of Ahmadnagar an important change was made in the rent settlement or *jamabandi* of 1819. The whole of the land which had hitherto been reckoned in local measures, differing in name and extent in almost every village, was nominally turned into *bighas* and arranged in classes on hasty and inaccurate information. Without much inquiry as to how far it had been actually realized, the full or *kamal* rental was adopted as the maximum of assessment in each village, and apportioned among the different classes at rates apparently not less arbitrary than the classification. When the increase in the total amount was- considerable, it was imposed gradually by progressive or *istava* enhancements. The results of this settlement were far from uniform. But under the loose way in which it was carried out, the people in many cases were able to procure land under easy terms; and the new rates, seemed to have been paid without much difficulty. In Pabal and the, other sub-divisions which were attached to Poona soon after the British acquisition, the full or *sosti* rates and the short or *ukti* rates of the former government remained undisturbed. The only changes were that greater indulgence was sometimes shown in allowing hereditary holders to pay short or *ukti* rates. On the other hand the assessment of waste land was occasionally enforced with more rigour than formerly. Though it was not without objections, this system probably worked better than any crude attempt at reform would have worked. [Mr. Pringle. 6th September 1828 para 61.]

In settling Junnar and Pabal, their neighbourhood and their similar circumstances induced Mr. Pringle to regulate the assessment by the same general standard. The principles on which the assessment was framed have been explained. As it was the first attempt to apply those principles, the settlement was interrupted by many doubts, difficulties, and errors; many groups had to be revised twice or even three times. The share of the net produce which it was decided should be taken by Government was 61.75 per cent. When the assessment was completed the people were called and the result was explained to them. It was found that in some villages the new rates exceeded and in others fell short of former payments. The same happened in the case of individuals, Where the result was an increase the parties were naturally dissatisfied. They were asked to state their objections, and a reference to the detailed accounts and to the opinion of their neighbours was made to show them that their rents had been raised because their land was found to be of greater extent or of better quality than had been supposed. If they refused to admit the justice of

the enhancement they were called on to point out any other holder whose fields they considered as good as their own and who had obtained more favourable terms. If they pointed out a more favourable case, a fresh investigation was made on the spot with the help of the headmen of neighbouring villages. These inquiries sometimes led to a reduction of the estimate of net produce, but they more frequently confirmed the assessor's work.

On comparing the details of the new and of the former assessment Mr. Pringle found that a frequent, though not a uniform, effect had been the reduction of the rent of the more fertile fields and villages and the increase of those of inferior quality. This, which to Mr. Pringle must have been an unexpected and disappointing result, was he thought due to the working of full rates or *sosti* and short rates or *ukti*, as in many cases under that system, while the best lands paid very highly, the poorer lands paid little more than quit-rents. When the landholders' complaints had been heard, and the settlement of the head assessors had as far as possible been equalised, it remained to confirm raise or lower their settlement in such uniform proportion as appeared advisable. Before fixing how far to change the assessor's settlement Mr. Pringle had to consider a case which in his opinion constituted a special exception to the general principle. The case was this. The western valley or the *khore* of Madh was held chiefly by Kolis, a simple rude and hardy people with few ties to bind them to the soil, at the prompting of pique or of disgust always ready to take to their favourite pastime of freebooting. Probably to keep the Kolis settled their lands had been held on very favourable terms. The general effect of the new assessment would in some cases have more than doubled the Kolis' rates. This was no more than the fertility of the soil justified, and as most of the Kolis were casual holders or *upris* they had no claim of right to any special indulgence; still Mr. Pringle considered that in the case of men of this class the recovery of the full rental was less important than keeping them settled and quiet. Accordingly in the villages where the increase would have been heavy and in one or two similar villages in neighbouring valleys, Mr. Pringle made a reduction of twenty per cent on the survey rental before bringing them into comparison with the rest of the country.

The amount of land assessment in Junnar and Pabal fixed by the head assessors on the basis of past collections was £47,980 (Rs. 4,79,800). As the accounts of former management had been found very complete and as they went back to some of the best periods of Maratha government, general considerations, connected with the altered circumstances of the country, induced Mr. Pringle to consider this

amount greater than could be easily realized, consistently with a liberal regard for the welfare of the people. He accordingly made a general reduction which together with the special reduction in the Koli lands, and, with revisions in some cases where the calculations of the net produce had been excessive, amounted to a reduction of 14.012 per cent on the assessor's total rental. This brought the final assessment to £41,257 (Rs. 4,12,570) and the proportion on the net produce to 54.03 per cent. Of 2460 wells in both sub-divisions only 237 were capable of yielding rent and of these the assessment on the principles laid down in Government letter dated 12th October 1826 amounted to £265 (Rs. 2650). But the whole of this did not fall due until the periods of exemption had expired. The details are: [Mr. Pringle, 6th September 1828 para 72. There were 119,820 acres of unarable land and 2223 wells paying no rent. Though entered under Tilled, the alienated acres and their rental are totals whose detail as to tilled and untitled is not given in Mr. Pringle's report. The rupees shown in the statement are *ankushi* rupees one of which was equal to 0.958 of a British rupee. See Bom. Gov. Sel. LXX. 12.]

SHIVNER-PABAL SETTLEMENT, 1828.

LAND.	TILLED.		WASTE.		WELLS.	
	Area.	Rent	Area.	Rent.	Number	Rent.
	Acres.	Rs.	Acres.	Rs.		Rs.
Government	230,645	2,70,829	139,148	1,05,133	237	2655
Alienated	30,095	36,610	--	--	216	3468

Under this settlement the assessment of Government land exceeded Malik Ambar's total or *tankha* by £5843 (Rs. 58,430) and was £6119 (Rs. 61,190) less than the average of past collections. In each village the tillage area was entered for the year in which the village was surveyed. These amounted in the Government land to 230,645 acres of which the survey assessment was £27,083 (Rs. 2,70,830) which was £3564 (Rs. 35,640) less than the existing or actual rent-settlement or *jamabandi*. An increase in the well receipts reduced the deficiency to £3343 (Rs. 33,430). [Mr. Pringle, 6th September 1828 para 73.]

Indapur, 1828.

Indapur lay between the Nira and Bhima which met at its south-east corner. It contained eighty-six villages of which ten were wholly alienated and were not surveyed. The seventy-six villages which were either entirely or partially in the possession of Government, covered 306,767 acres exclusive of hills. The soil in the river-bank villages was in general deep and rich. The uplands between the rivers were barren and stony. The chief produce was white *jvari*. The proportion of waste was not very great, but the cultivated area bore marks of the landholder's poverty and want of capital. The heavy eight-bullock plough was used every year in the deep soils. Manure was seldom given except to watered lands. It was its proverbially scanty supply of rain that made Indapur the most unproductive sub-division of Poona. The only watering was from wells, and the area watered from wells was small.

During Maratha rule Indapur is said to have flourished most under the management of Madhavrav (1761-1772) and of Nana Fadnavis (1774-1796). At that time most of the sub-division was assigned for the support of *pagekaris* that is commandants of horse and *shiledars* that is self-horsed troopers of whom considerable bodies were stationed in all the chief villages, probably to guard the Nizam's frontier. The few records which remained showed that, at that time, compared with what it afterwards became, the area under tillage was great, the rates were high, and there was a much larger body of hereditary holders. The decline of Indapur dated from 1794. A succession of bad seasons and misgovernment reduced its resources and its ruin was completed in 1802 by the ravages of a detachment of Holkar's army under Fatesing Mane. The ruin caused by this army was followed by the failure of the late rains of 1803 and a famine so grievous that the whole of the people left their villages. For six years the land remained empty. It was then granted on a favourable lease to one Malhar Mukund. The lease lasted for nine years, and, at the end of the nine years, the demand was limited to Malik Ambar's very moderate assessment. At the beginning of British management its state was comparatively prosperous, except that the hereditary holders who had fled in the time of desolation, had never come back to claim their lands. From the almost total destruction of village records about 1803 and the irregular system that had since prevailed, little information was available regarding the principles on which the assessment was regulated in the best times. Such accounts as were forthcoming seemed to show that the land had been held on full or *soati* and On short or *ukti* rates in much the same way as in Shivner and Pabal.

When Indapur came under British management, it was at first placed under the Collector of Ahmadnagar. The rent settlement of 1819 was made by his establishment on the plan adopted in Junnar. In Indapur the full Maratha settlement or *kamal* which was introduced as the maximum to which by gradual enhancements the Government demand was to rise, was so greatly in excess of the usual collections that it could not have been continued. For three years as the rates were moderate, crops good, and prices high, Indapur flourished. But low grain prices in 1822 and 1823, and an almost complete failure of rain in 1823 and 1824 reduced the people to the extremest poverty. In 1826 the Collector of Poena, endeavoured to restore cultivation by granting village leases for five years on rents rising to twenty-five per cent over Malik Ambar's assessment or *tankha*. The terms were moderate. But such was the scarcity both of people and of capital that few men were found willing to undertake the risk, and of those who took leases, in consequence of the want of rain in 1826-27, the greater number failed to pay even the moderate sums required. The system of leases was abandoned and the lands were given to people on such short or *ukti* rents as they were willing to pay. [Mr. Pringle, 6th September 1828 paras 79-80. Mr. Giberne, Collector, 4th September 1830, Bom. Gov. Rev. Rec. 352 of 1831, 115-119.]

Indapur was the largest town in the sub-division. It had once been a place of importance. But in 1828 its trade was inconsiderable and its only manufacture was the weaving of coarse cloth for the use of the neighbouring villagers. The grain went chiefly to Phaltan and Baramati and from there to the Konkan and Poona. Of the husbandmen only a very small proportion were hereditary holders and these were chiefly of headmen's families. Few others had survived the wars and famines which had laid Indapur waste. The casual holders or *upris* for the most part belonged to the neighbouring territories of the Nizam and the Raja of Satara, or they had come from higher assessed British lands attracted by low rates but without any permanent interest in the soil. The villages were ruinous, and, when Mr. Pringle visited them, had become half empty or entirely deserted in consequence of a recent (1827) failure of rain. [Mr. Pringle, 6th September 1828 para 74.]

As the assessing of Indapur was begun later than the assessing of Junnar and Pabal, Mr. Pringle's experience enabled him to clear many of the assessors' doubts and to correct many of their errors. Still several delays occurred and there was much to put in order and to correct, which required the constant supervision of Mr. Pringle and his establishment. The materials for the assessment were more scanty than they had been in Junnar and Pabal. The old records were less complete; many of the holders were absent, and, of those who

attended, many were new-comers or casual residents who took little interest in the survey. While the work was in progress, Mr. Pringle visited almost every village in the sub-division unaccompanied by any of his establishment and encouraged the people to give him their opinion regarding the survey. Some of the more intelligent seemed sensible of the justice of the views with which it was undertaken, and in general were satisfied with the means which had been used to apportion the rates on the different fields. By far the greater number showed an apathy very different from the jealous anxiety of the hereditary holders of Junnar. A series of bad seasons had taken the heart out of the Indapur husbandmen. Provided they obtained present relief, they were willing to trust the future to the mercy and moderation of Government, aware that if Government asked more than they could pay, they could with little inconvenience move to some other part of the country where rents were lower. The assessors fixed twenty-five per cent of the net produce as the average of past collections. The extreme lowness of this rate was due to the fact that the papers from which it was calculated belonged to the years that followed the ruin of 1803 and included many years of specially light leases or *kauls*. It would have been impolitic to make a rate obtained under such circumstances permanent. Mr. Pringle had no hesitation in increasing it, but, as he thought that in estimating the gross produce the assessors had not made sufficient allowance for the precarious rainfall and as Indapur was much more impoverished than Junnar or Pabal, he judged it inadvisable to raise the Indapur assessment to the Junnar standard. Under these circumstances he determined to increase the head assessor's settlement by $12\frac{1}{2}$ per cent, a change which raised the Government demand to about $28\frac{1}{8}$ per cent of the net produce.

A due allowance for the uncertainty of the rain supply would probably raise the share to about 45 per cent or nine per cent less than the proportion finally fixed in Junnar and Pabal. When the head assessors had equalized and completed the assessment as in Junnar and Pabal, it was found to raise the payments of some holders and of some villages and to lower the payments of others. In this respect as in Junnar the new rates were found most often favourable to the best lands. Most of the villages on the Nira had their rates raised, while in the Bhima villages the rates were relatively reduced. This result appeared to be due to the fact that the area of land had hitherto been estimated much lower in the Nira than in the Bhima villages, though there was no corresponding difference in the quality of the soil. The results when explained to the holders were considered good or bad according as their effect was to lower or to raise their individual

payments. The doubts of all the villages which objected were, with a single exception, either removed or silenced by an explanation of the causes of the change or by a reference to the accounts and a comparison with the details of other villages. In the case of the single village which refused to accept the new rates, accompanied by the hereditary distriot officers and by the headmen of other villages, clerks from the Collector's office were sent to inspect the land. The inquiry confirmed the correctness of the assessors' rates. The total rental fixed by the head assessors on Government and alienated lands was £17,532 (Rs. 1,75,320) and the increase which Mr. Pringle imposed raised it to £19,723 (Rs. 1,97,230). The well-tax yielded an additional sum of £413 (Rs. 4130) that is a total of £20,136 (Rs. 2,01,360). The details are: [Mr. Pringle, 6th September 1828 para 89. There were 60,152 acres of unarable land and 444 wells paying no rent. Though entered under Tilled, the alienated acres and their rental are totals whose detail as to tilled and waste is not given in Mr. Pringle's report.]

INDAPUR SETTLEMENT, 1828.

LAND.	TILLED.		WASTS.		WELLM.	
	Area.	Rent.	Area.	Rent.	Number	Rent.
	Acres.	Re.	Acres.	Rs.		Rs.
Government	168,765	142,156	63,474	43,481	237	3552
Alienated	14,376	11,595	--	--	35	578

The total settlement of £18,564 (Rs. 1,85,640) on Government land was £5987 (Rs. 59,870) above Malik Ambar's total or *tankha* and £5049 (Rs. 50,490) below the Maratha total or *kamal*, and £2068 (Rs. 20,680) more than that calculated from the average of past collections. The survey assessment of cultivated Government land exceeded the existing or actual settlement or *jamabandi* by £6168 (Rs. 61,680) or an increase of 76½ per cent. But, as Mr. Pringle says, this was of no importance when the circumstances under which the land was let at the time of survey were taken into consideration. [Mr. Pringle, 6th September 1828, para 90. 'The assessment of cultivated land exceeded the actual *jamabandi* by £6168 (Rs. 61,680). This the Superintendent considered of no importance as the land was let so low in former years, Mr. Giberne, Collector, 4th September 1830, Rom. GOV. Rev. Rec. 352 of 1831, 115-119.]

Bhimthadi.

In Bhimthadi the new survey and assessment raised the rates on cultivated land $13\frac{1}{4}$ per cent over the former settlement. [Mr. Giberne, Collector, 4th September 1830, Rev. Rec. 352 of 1831, 108-110.]

Purandhar.

In Purandhar the new survey and assessment rates on Government land exceeded past collections by £6860 (Rs. 68,600) or $33\frac{1}{8}$ per cent. The increase in the assessment on cultivated land was £3904 (Rs. 39,040) or $27\frac{1}{2}$ per cent, being less in proportion than on the whole rental as the greater increase fell on the waste land. The increase of the new rates over the settlement (Rs. 88,460) of 1828-29 was £2086 (Rs. 20,860) or about 24 per cent. [Bom. Gov. Rev. Rec. 352 of 1831, 112-115.]

Khed.

In Khed the new survey rates were fixed at 55 per cent on the net produce, a result which averaged about $27\frac{1}{2}$ per cent less, than former collections. The fall in the assessment of cultivated land compared with the existing settlement was £3191 (Rs. 31,910) or $25\frac{1}{2}$ per cent. [Besides in Khed, in Junnar and Pabal the new survey also as noticed above occasioned a reduction in the rates. In Indapur Purandhar and Bhimthadi it caused an increase. In the three subdivisions of Khed Junnar and Pabal the greater proportion of the landholders were well-to-do hereditary holders attached to the soil, The Collector Mr. Giberne, Bom. Gov. Rev. Rec. 352 of 1831, 125.]

Mr. Pringle's assessment was introduced between 1829 and 1831. During 1829-30 it came into force in Bhimthadi, Purandhar, Indapur, Khed, Junnar or Shivner, and Pabal; and into Haveli, Maval, and Mohol (now in Sholapur) in 1830-31. [Bom. Gov. Rev. Rec, 352 of 1831, 105-106.] Mr. Pringle's settlement was not found to improve the state of the district. In practice over most of the district the new rates were never actually enforced. In 1836 a fresh survey and settlement was begun.

1829-30.

In 1829-30 there was another failure of rain. In Indapur, Bhimthadi, and part of Purandhar, at the end of September 1829, not a blade of grass was to be seen. The crops failed completely; they were dried up

before they came into ear. In the east no collections were made except at spots where moisture gathered. Early in the year the people took their cattle with them and left in great numbers. In addition to remissions of about £38,400 (Rs. 3,84,000), or about £22,100 (Rs. 2,21,000) more than the sum granted in 1828-29, land assessed at £7772 (Rs. 77,720) was thrown up as its holders were too poor to stay and had left. The outstandings were large. Compared with 1828-29 the land revenue settlement for 1829-30 showed a fall from £111,711 to £45,409 (Rs. 11,17,110-Rs. 4,54,090). This fall was partly due to the transfer of three large sub-divisions, Sholapur to Ahmadnagar and Indi and Muddebihal to Dharwar, yielding about £43,400 (Rs. 4,34,000) of revenue. [Mr. Giberne, September 1830, Bom. Gov. Rev. Rec. 352 of 1831, 101-104.]

Bhimthadi.

The Bhimthadi sub-division was the first in which the Collector Mr. Giberne introduced Mr. Pringle's new settlement. About £2600 (Rs. 26,000) were outstanding from former years. The year 1828-29 was one of partial failure and remissions were required, but owing to changes in the staff of the local officers none were granted. [The whole rental was brought to account. In September 1830 the Collector reported that about £500 (Rs. 5000) would have to be written off. Bom. Gov. Rev. Rec. 352 of 1831, 102-103, 113.] In 1829-30, according to Mr. Pringle's rates, the settlement amounted to £5946 (Rs. 59,460). Of this only about £2000 (Rs. 20,000) could be collected, as the want of rain completely ruined the crops and wasted the greater part of this sub-division. Since 1827-28, when Mr. Pringle's surveyors had measured the country, 27,312 acres had fallen out of tillage. In 1827-28 the new rates showed an increase of 13¼ per cent on the rental but the settlement was made according to the old system; £4627 (Rs. 46,270) were remitted, and of the £1581 (Rs. 15,810) which remained over, £605 (Rs. 6050) were outstanding at the close of the year. Compared with 1822-23 the settlement of Bhimthadi in 1828-29 showed a fall from £10,930 (Rs. 1,09,300) to £6600 (Rs. 66,000) or about forty per cent. When managed by the Tulsibag family Bhimthadi is said to have enjoyed considerable prosperity. Of this prosperity few traces were left. The villages looked poor and distressed and there seemed little chance of recovering the increased revenue which according to Mr. Pringle's survey might be recovered without hardship to the landholders. [Mr. Giberne, 4th September 1830, Bom. Gov. Rev. Rec. 352 of 1831, 108-11.]

Purandhar.

In Purandhar the new survey assessment exceeded past collections by £6860 (Rs. 68,600) or 33½ per cent. The increase in the assessment on cultivated land was £3904 (Rs. 39,040) or 27½ per cent, being less in proportion than on the whole rental as the increase chiefly fell on the waste land. The new rates showed an increase of £2086 (Rs. 20,860) over the settlement £8846 (Rs. 88,460) of 1828-29. The year 1828-29 was one of partial failure and remissions were required, but they were not granted owing to a change of officers as stated in Bhimthadi. [The whole rental was brought to account. In September 1830 the Collector reported that about £2000 (Rs. 20,000) would have to be written off. Bom. GOV. Rev. Rec. 352 of 1831, 102, 103, 113.] The cultivation in this sub-division varied little. The net settlement amounted to £10,448 (Rs. 1,04,480). The year 1829-30 was one of almost total failure and required the large sum of £6094 (Rs. 60,940) of remissions leaving £4354 (Rs. 43,540) to be collected. Compared with 1822-23 before which remissions had not been granted, the settlement of 1828-29 showed a decrease from £11,007 (Rs. 1,10,070) to £8846 (Rs. 88,460) that is a fall of at least one-fifth in the revenues in six years. [Bom. Gov. Rev. Rec. 352 of 1831, 112-115.] For the three years ending 1828-29 outstanding balances in Purandhar amounted to £4800 (Rs. 48,000). In September 1830 the Collector feared that the season of 1829-30 would add to the outstanding balance. The people were particularly backward in paying the revenue and it was difficult to distinguish the deserving poor from the quarrelsome and cavilling holders who could afford to pay. [Mr. Giberne, Collector, Sept. 1830, Bom. Gov. Rev. Rec. 352 of 1831, 112-115.]

Indapur.

Indapur was a more peculiar sub-division than either Bhimthadi or Purandhar. The rainfall was scanty and its revenue was doubtful. Few of the people were bound to the land; most of them were strangers. The new survey raised the Government demand by 76½ per cent. In April 1830 Mr. Giberne the Collector showed what evils would result from any attempt to enforce these higher rates. In June 1830 in order to bring back people who had left, he had been allowed to keep to the old rates showing the difference sacrificed as a temporary reduction. The settlement of 1829-30 by Mr. Pringle's rates represented £9157 (Rs. 91,570), but in September 1830 the Collector wrote that the crops had failed so completely that only a mere trifle could be realised. So entirely did the rain fail that immediately after the close of the rains not a blade of grass was to be seen. Early in the season, probably about July, the people left as water had failed. The returns

showed a decrease of cultivation representing a loss of £1021 (Rs. 10,210) of revenue. [Bom. Gov. Rev. Rec. 352 of 1831, 115-119.] In the Collector's opinion some change of system was required. Under the existing system if a plot of land was thrown up it would be let to the first bidder and as there was no scarcity of waste the highest bid would be far below the sum paid by the last holder. Such a practice tempted the steady farmer and hereditary tenant. to throw up his paternal land for a more favourable tenure and made the whole body of husbandmen unsettled and careless. Under Mr. Pringle's new settlement this evil had been checked. In time the people would see the advantages of keeping to and improving the lands they held. Mr. Giberne was doubtful whether in some cases the new rates had not been fixed too high. He had hoped that a revenue survey would have tended to a reduction of rates and that the necessity of remissions would have ceased. Unfortunately the failure of the 1829-30 crops had been so general and so complete that the amount settled by the new assessment could never have been realised. [Bom. Gov. Rev. Rec. 352 of 1831, 106-108.] The state of the people was very depressed. They were well known to live from hand to mouth. They began to eat their crops before they were ripe and daily plucked unripe grain to give them a meal. If the season was favourable the price of grain fell so low as to make the produce of little value and remissions were required. Even if the season was bad the price did not rise because there was many years' supply on hand and remissions had again to be given. [Mr. Giberne, Collector, 1830, Bom. Gov. Rev. Rec. 352 of 1831, 130-131.] As the rates introduced by the new settlement were considered to be such as the people were able to pay and such as Government were entitled to levy, the Collector did not grant remissions in the old way but held over for future recovery the amount by which the collections fell short of the settlement. The Collector told the people their only chance of getting the balance remitted was by seeing that in future there were no balances. At the same time he was certain that the balance could never be recovered. He had hoped that the new settlement would have reduced the rates so greatly that the revenue would have been easily paid instead of being drawn forth with the greatest labour. He was greatly disappointed that this had not been the result. In other respects, in the arrangement of the accounts, the distinction of fields, and the other details the new settlement could not be improved. Everything was simplified to the utmost. Only the revenue would be as difficult to collect as it had ever been. Before 1822-23 the revenue was collected with the greatest ease; no remissions were ever thought of. This was partly owing to the high price of grain, and the ease with which produce was disposed of. It was also insured by the character of the people, and their fears of

delaying the payment arising from the mode formerly in use of compelling payment by a variety of cruel methods, burning fingers or tying up the delinquent with heavy stones fastened to his chest or head. Though under the English these punishments were not practised, from their recent enforcement they were still dreaded. Even after the beginning of British management a stone sent round to the backward villages summoned payments, a practice which was never thought of in 1830. In 1830 a landholder had nothing to fear from delaying to pay. The severest punishments were a gain to him. [Mr. Giberne, Collector, 1830, Bom. Gov. Rev. Rec. 352 of 1831, 131-134.] The only course open to the Collector was to enforce the regulations regarding the appointment of watchmen over the crops until a settlement was made for payment. This rule would be in force during the current year; it had never been enforced before. [Mr. Giberne, Collector, 4th September 1830, Rev. Rec. 352 of 1831, 138-139.]

Bhimthadi, Purandhar, Indapur, 1820-30

In Bhimthadi, Purandhar, and Indapur the new survey settlement had increased the rates. Even under the former low rates, large remissions were required and every year large balances remained outstanding. The Collector saw no reason to suppose that the new settlement would reduce these evils. The principles of the new survey were to fix a rate which the landholders could and ought to pay and Government ought to receive. The survey superintendent Mr. Pringle said that Collectors should have the power of imposing the increase so gradually that the pressure of the new rates would be less felt. If this was acted on, the result would be to lower rates fixed on the principle of the survey, proved by the superintendent to be those which the holder could and ought to pay. If the Collector were to take on himself the reduction of these rates, in theory he had no good reason to offer why the full rates should not be levied. But he knew that as a matter of fact the new rate could not be collected. If he took less than the rate fixed by the settlement, because he could not obtain it, he set aside the principle on which the settlement was based. [Mr. Giberne, Collector, Sept. 1830, Bom. Gov. Rev. Rec. 352 of 1831, 119-120.] In Indapur from sheer necessity the full rates were not levied. If the new rates were enforced the Collector feared that the greater part of the subdivision would become waste. His fear was grounded on the fact that the greater part of the people had left from want of water and afterwards refused to return to till the land at higher rates. [Regarding Indapur, on the 26th of March 1835, the Rev. Comr. Mr. Williamson wrote, 'Before the new survey rates were introduced at Indapur the Collector expressed great fears of their success. The first year he estimated the

survey assessment at about £9159 (Rs. 91,590) while he seemed to think he could not realise more than £4230 (Rs. 42,300) being less than one-half the assessed amount. The crops were very bad, No remissions were sanctioned, A large sum was kept suspended and the actual realisations fell greatly short even of the Collector's estimate. [Bom. Gov. Rev. Rec. 666 of 1835, 8.] In Purandhar the Collector made arrangements for introducing the increase by degrees. Where the rates had been doubled he directed five-eighths (10 *as.* in the rupee) of the full amount to be levied in the first instance and an addition of 3/32nds (1½ *as.* in the rupee) to be made every year so that five years would pass before the full amount was levied. Even this concession failed to satisfy the people. So great was the distress that in 1830 the lands of the large town of Sasvad were almost all neglected. [Mr. Giberne, Collector, Sept. 1830, Bom. Gov. Rev. Rec. 352 of 1831, 120-122]

1830-31.

The failure of the 1829 rains was followed by a second year of scanty supply. In the east in Bhimthadi, Indapur, Mohol now in Sholapur, and in part of Purandhar the crops completely failed. An early and plentiful fall of rain raised the cultivators' hopes, but the after-failure of rain withered the plants when they were only a few inches above ground. At harvest time the country was a miserable waste, and the people were suffering and full of complaints. Still the actual collections for 1830-31 were more favourable than those of former years. Territorial changes prevented any exact comparison. In 1830-31 Sholapur and Barsi were transferred from Ahmadnagar to Poona. In spite of the local failure of rain produce prices continued very low from thirty-three to fifty per cent below the average of prices during the twenty years before the beginning of British management. [The details are:

Poona District, Produce Rupee Prices, 1797-1831.

SUB-DIVISION.	1797-1817.	1831.	SUB-DIVISION.	1797-1817.	1831.
	<i>Shers.</i>	<i>Shers.</i>		<i>Shers.</i>	<i>Shers.</i>
Shivner	20¼	33½	Bhimthadi	23	30½
Indapur	22	35½	Haveli	21½	31
Khed	25¾	38¾	Maval	17½	27½

Pabal	21 $\frac{1}{3}$	33 $\frac{1}{2}$	Poona City	20 $\frac{1}{2}$	26 $\frac{3}{4}$
Purandhar	19 $\frac{1}{4}$	27 $\frac{3}{4}$	--	--	--

Mr. Giberne, Collector, 15th August 1831, Bom. Gov. Rev. Rec. 407 of 1832, 302.]

Large remissions were again necessary. [Bom. Gov. Rev. Rec. 407 of 1832, 276, 291, 292.] The land revenue settlement of 1830-31 showed an increase from £45,409 (Rs. 4,54,090) in 1829-30 to £67,185 (Rs. 6,71,850). Compared with former years the actual collections were favourable. [Bom. Gov. Rev. Rec. 407 of 1832, 290. Regarding Indapur, on the 26th March 1835 the Revenue Comr. Mr. Williamson wrote, ' In 1830-31 the mamlatdar reported that the landholders refused to cultivate the land according to the survey rates. A correspondence followed between the Collector and the mamlatdar which ended in an order to the mamlatdar not to demand increases which added more than 25 per cent to the former assessment. Where the new rates were lower than the old, the new rates only were to be collected. Even this reduced assessment did not stand. The crops were again bad and remissions were granted.' Bom. Gov. Rev. Rec. 666 of 1835, 8-9.]

1831-32.

In 1831-32 compared with 1830-31 the land revenue settlement showed an increase from £67,185 (Rs. 6,71,850) to £68,073 (Rs. 6,80,730); remissions on account of land and miscellaneous revenue showed a fall from £37,420 to £24,998 (Rs. 3,74,200-Rs. 2,49,980); and out standings were comparatively small. [Bom. Gov. Rev. Rec. 484 of 1833, 21, 23, 24.] In this year the Commissioner Mr. Dunlop directed the attention of the Collectors to the ruined state of the village walls and of the necessity of having them repaired. [Mr. Dunlop, 29th November 1831, Bom. Gov. Rev. Rec. 406 of 1832, 13.]

1832-33.

In 1832 the rains again failed. The scarcity began about sixteen miles east of Poona and extended to the extreme east and south of the district. The loss of revenue was most marked in Sholapur, Mohol, Barsi, Indapur, Bhimthadi, and Purandhar. In Indapur the net rental was £7403 (Rs. 74,030), and of this the whole except £806 (Rs. 8060) had to be remitted. To the west of a line about sixteen miles east of Poona the early rain was abundant. About the middle of the season the

supply failed and the half-grown fields of grain being left without moisture yielded either no crops at all or a very poor outturn. The after-rains were so slight that the late crops were either never sown or died soon after they sprang up. The land revenue settlement showed a fall from £ 68,073 (Rs. 6,80,730) in 1831-32 to £38,715 (Rs. 3,87,150). [Bom. Gov. Rev. Rec. 550 of 1834, 11 -48.]

On the 18th of July 1831 Mr. Pringle proposed to grant a uniform reduction of thirty-three per cent upon the settlement made by him. [Bom. Gov. Rev. Rec. 426 and 427 of 1832.] On the 7th of October 1831 Government asked the Revenue Commissioner for his opinion on the proposed reduction. Mr. Raid the Acting Revenue Commissioner referred the matter to the Collector and asked for a figured statement.

Mr. Pringle's Survey, 1832-33.

This was furnished on the 10th of August 1832, [Bom. Gov. Rev. Rec. 517 of 1833, 38, 47. The total amount of loss on the gross settlement of the year 1831-32 (*Fasli* 1241) was estimated at £22,249 (Rs. 2,22,490. The details are:

Poona Revenue, 1831-32.

SUB-DIVISION.	Gross Settlement.	Amount at 33 per cent.	Remis-sions.	SUB-DIVISION.	Gross Settlement.	Amount at 33 per cent.	Remis-sions.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Shivner	1,52,672	50,382	60,724	Haveli	76,830	25,354	16,603
Indapur	69,858	23,053	50,009	Maval	51,997	17,159	519
Khed	81,574	26,919	11,059	Poona City.	2383	786	--
Pabal	80,190	26,,463	37,153	Total	6,74,208	2,22,488	2,38,400
Purandhar	96,705	31,912	36,918				
Bhimthadi	61,999	20,460	25,415				

]

and on the 15th of February 1833 Revenue Commissioner Mr. Williamson in submitting his report [Bom. Gov. Rev. Rec. 517 of 1833,

37-43.] to Government remarked that Mr. Pringle's estimates of the average price of field produce were framed when produce was much more valuable than it had since become. Mr. Williamson thought, that if there was reason to suppose the great fall in produce prices would last, Mr. Pringle's suggestion to reduce his rates by thirty-three per cent would be a suitable measure. But, since Mr. Pringle had made the proposal for reducing his rates, in consequence of the failure of crops in 1832, prices were higher than they had been even the years on which Mr. Pringle's original estimates were based. The food stocks were also so low that Mr. Williamson thought even a good year would fail to bring grain down to its former low level [At Indapur *jvari* rupee prices were in April 1829 about 160 pounds (80 shers) in April 1830 about 92 pounds (46 shers), in May 1831 about 80 pounds (40 shers) February 1832 about 120 pounds (60 shers), in February 1833 about 46 pounds (23 shers), in February 1834 about 92 pounds (46 shers), in February 1835 about 96 pounds (48 shers), and in February 1836 about 76 pounds (38 shers). Bom. Gov. Sel, CVI1. 118.] Mr. Williamson doubted whether the system on which Mr. Pringle's rates had been fixed was so good that the simple plan of reducing the rates all round would make the settlement successful. Mr. Williamson's experience satisfied him that Mr. Pringle's assessment was too light on the good lands and too heavy on the poor lands. Government lost in both ways. The good land paid less than it ought, and the poor land fell waste. [Bom. Gov. Rev. Rec. 595 of 1834, 9-11.] Finally Mr. Williamson feared that the work of Mr. Pringle's subordinates was not trust-worthy. Complaints of the dishonesty of some of the under-servants were loud. He thought that an officer should be appointed under the Revenue Commissioner and deputed to go in detail through a certain number of villages and compare the result of his examination with the details recorded in Mr. Pringle's survey. Government would then be in a position to judge how far Mr. Pringle's assessment might be accepted as accurate. Government agreed with the Revenue Commissioner that further information regarding the trustworthiness of Mr. Pringle's assessment was required. In March 1833 they appointed Captain Dowell of the Ratnagiri survey to make inquiries into the survey assessment lately completed by Mr. Pringle. [Bom. Gov. Rev. Rec. 517 of 1833, 49, 51-52, 55, 57-59.] Shortly after his appointment Captain Dowell fell sick and the inquiry had to be put off. [The Rev. Comr. 29th June 1833, Bom. Gov. Rev. Rec. 517 of 1833, 191; Gov. Letter, 16th October 1833. Ditto, 241.] In November 1833 Government ordered that the survey rates should be continued, but that the Collector might make inquiries and introduce amended rates in a few villages. [Gov. Letter, 21st Nov. 1833; Bom. Gov. Rev. Rec. 517 of 1833, 249 - 252, 255.]

1833-34.

In 1833-34, the famous *pik sal* or crop-year, the rainfall was sufficient and timely. Out of a land revenue of £96,461 (Rs. 9,64,610) all but £3856 (Rs. 38,560) were collected by November 1834. [The Collector, 19th January 1835, Bom. Gov. Rev. Rec. 628 of 1835, 14.] The changes which had to be introduced in Mr. Pringle's settlement rates in consequence of the succession of bad years, caused great confusion in the revenue accounts. This confusion opened a door for fraud, and the native officials seem to have fallen into a state of grave corruption. They appropriated a great part of the liberal remissions to their own use, and introduced a system of secret exactions which in some cases produced more than double the Government revenue. The Revenue Commissioner believed that not one-half of the remissions had reached the people and not one-half of the collections had reached the Government. [The Revenue Commissioner's Reports on the subject are dated 24th October 1832 and 19th August 1833, quoted in his Report of 26th March 1835, Bom. Gov. Rev. Rec. 666 of 1835, 11-12.] In June 1834 Mr. Baber the Collector of Poona wrote to the mamlatdar to try and recover more of the outstandings in his charge, and told him that his promotion would depend on the vigour he showed in recovering the outstandings. Soon after this it was discovered that the people had been tortured to make them pay the revenue. Twenty persons including the mamlatdar and several hereditary officers were convicted of torturing or of abetting torture and were imprisoned for periods varying from one to seven years. [Details are given in Bom. Gov. Sel. CVII, 17 -19.]

In 1834 (January 30th) Major Robertson forwarded the results of his inquiries into the details of Mr. Pringle's settlement. He considered the work so full of inaccuracies and frauds that it could not safely be made the basis of fresh assessments. [Bom. Gov. Rev. Rec. 595 of 1834, 37 -131.] In this opinion Mr. Williamson the Revenue Commissioner (27th April 1834) agreed. [Bom. Gov. Rev. Rec. 595 of 1834, 1 - 33.] In Mr. Williamson's opinion one of the chief reasons why Mr. Pringle's work had ended in failure, was the unfitness of the staff. They were ignorant of the work at starting, and they were employed only for a time, and so were tempted to carelessness and dishonesty. There was no sufficient supervision and Mr. Pringle had to leave much to his headman who had since been convicted by the Sessions Judge of fraud and cheating. [The details of the establishment were: Head assessors 8, assessors 54, assessors' karkuns 183, examiners of survey 35, surveyors 359, peons 525, total 1164. Bom. Gov. Rev. Rec. 595 of 1834, 2-3.] Besides the unsuitableness of the staff for the difficult and

important details of field work there had been no provision for supervision. The only case where special inquiry was made was when some land-holder complained of the new rates. There was no protection to Government against the fraud of an assessor charging land unduly low rates. Major Robertson detected several cases in which rice and garden land was entered as dry crop, and in some instances whole villages were rated at a fraction of similar and neighbouring villages. Many fraudulent changes to the loss of Government had been made in Mr. Pringle's head-quarter office. Alienated or *inam* land had been increased and temple allowances had been raised as much as 37¼ per cent. [Bom. Gov. Rev. Rec. 595 of 1834, 8, 9, 63, 66-73. Of the errors noted by Major Robertson there was around Sinhgad the omission of 55 and in the village of Kalyan close under Sinhgad the omission of 76 fields. Assessable land was left out of the records of seven or eight other villages. In the village of Male in Paud Khore lands belonging to a *deshmukh* had been correctly rated by the assessor but were marked as excessively assessed by the head assessor and unduly reduced. In Khed the village of Chinchuli was found rated at about one-third of the rates levied in neighbouring and similar villages. In another village a field of 115 acres whose proper assessment was £16 8s. (Rs. 164) was entered at 41 acres with a rental of £38s. (Rs. 34). This field had been examined by the head-quarter staff. Bom. Gov. Rev. Rec. 595 of 1834, 62-63, 87-94.] Under these circumstances Mr. Williamson thought that without further inquiry it was unsafe to base any settlement on Mr. Pringle's survey. He suggested that an officer should be appointed to resume the inquiry which had been begun by Captain Dowell. [Bom. Gov. Rev. Rec. 595 of 1834, 19.] In July 1834 Government ordered that the temple allowances should be reduced to the former amount. [Gov. Letter, 1953 of, 15th July 1834, Bom. Gov. Rev. Rec. 595 of 1834, 229.] In August 1834 they appointed Lieutenant Shortrede to resume the inquiry formerly entrusted to Captain Dowell. [Gov. Letters 1952 of 15th July 1834 and 2329 of 30th August 1834, Bom. Rev. Rec. 595 of 1834, 235, 245.]

1834-35.

In 1834 the rainfall must again have been sufficient though less favourable. The land revenue showed a fall from £96,461 (Rs. 9,64,610) in 1833-34 to £92,720 (Rs. 9,27,200), but by the end of October 1835, all but £5817 (Rs. 58,170) were collected. [Bom. Gov. Rev. Rec. 694 of 1836, 244 - 248.] About this time an important and useful change was made in the revenue management by appointing mahalkaris or petty division officers subordinate to mamlatdars. [Bom.

Gov. Rev. Rec. 665 of 1835.] This change at first seemed to work well. It was afterwards found that the mahalkari's staff had been fixed at too low a strength. Their strength was increased, and in 1838 Mr. Williamson was satisfied with their working. In his opinion no measure had done more to improve the revenue management of the Deccan than the excellent system of subordinate divisions or *mahals*. [Mr. Williamson, Rev, Comr. 26th April 1836, Bom. Gov. Rev, Rec. 694 of 1836 228, and 2610 of 23rd November 1838.]

During 1834-35 Lientenant Shortrede inquired into the details of Mr. Pringle's survey indapur. Of its eighty-four villages he examined the lands of about twenty. He measured a number of fields in several villages, and with two exceptions found them remarkably correct. On the other hand the classing of the soil was remarkably incorrect; the classification seemed to have no connection with the colour or qualities of the soil. Deep rich black soil, acknowledged by the people to be of the best quality, was entered as second black or red, and poor waste or *gatkul* land was entered as of the first sort. [Bom. Gov. Rev. Rec. 666 of 1835, 44-49.] In the rates there were many instances of unfairness; villages whose land was good were assessed at lower rates than villages with inferior soil, and lands held by village and district officers were assessed at unduly low rates. [Bom. Gov. Rev. Rec. 666 of 1835, 30, 49.] In many villages the survey rates could not be realized. Most of the lands were held at *ukti* or reduced rates, varying from one-half to three-fourths of the assessment. Though in practice a dead letter, Mr. Pringle's survey rates remained the nominal rental. The reductions from this nominal rental offered the district officers excellent chances of fraud of which they were not slow to take advantage. So far as related to Indapur Lieutenant Shortrede could not recommend the continuance of the survey assessment. He saw no permanent system of management by which the survey assessment could be immediately superseded. The country was exhausted and deserted. So far as he could see, no official data of any value were forthcoming on which a permanent settlement of the revenue could be founded. A yearly settlement left open many avenues to mismanagement on the part of the native authorities which Lieutenant Shortrede believed the European authorities, however vigilant and active, would never be able to close. Under these circumstances Lieutenant Shortrede held that the first year of settlement should be experimental, and that the terms of the settlement should be favourable to the landholders to enable them to enter with substance and safety on a permanent settlement in the following year. The report of favourable terms would bring back most of the absent landholders. Meanwhile an active and able assistant might, during the year, gain

knowledge enough to enable him to make a ten years' settlement. The settlement which Lieutenant Shortrede proposed for the first year was to let the best land at £6 (Rs. 60) a *chahur* or 120 *bigha's* and the poorer lands at £5 to £4 10s. (Rs. 50-45) the *chahur*. [The *bigha* varied in size according to the soil. In good land it was a half to three-quarters of an acre; in poor lands three-quarters of an acre to one acre. The proposed rates were equal to acre rates varying from 1s. 4d. to 2s. (10 2/3 as. -Re. 1) on good land, and from 9d. to 1s. 1½d. (6-9 as,) on poor land.] He believed the people would willingly take lands on these terms. They did not differ much from the old Muhammadan or *tankha* rates, and good *inam* lands were let at £5 to £7 (Rs. 50-70) the *chahur*. These rates were low; in Lieutenant Shortrede's opinion they were less than a fair rental. Still the system of remissions was in practice so evil and corrupt that it should cease even at a great sacrifice. After the first experimental year he suggested that the lands should be let on a ten years' lease at much the same rates as those levied in the experimental year. A lease at a fixed rent would help the people to look forward and force them to lay by for bad years. [Lieut. Shortrede, 15th January 1835, Bom. Gov. Rev. Rec. 666 of 1835, 50-54.]

The Revenue Commissioner Mr. Williamson submitted this report on the 26th of March 1835. [Mr, Williamson, Rev. Comr. 502 of 1835, Rev. Rec. 666 of 1835, 1-40.] The inquiries Mr. Williamson had made in Indapur two years before and the information he had lately collected satisfied him that a change in its management was necessary. Its rich soil and most uncertain rainfall, tempting them back and driving them away, made the people unsettled. In bad seasons they wandered to the Nizam's country. [Bom. Gov. Rev. Rec. 666 of 1835, 1-2.] So far the British management was a failure. There had been no fixed system. At first a yearly settlement was made and then leases on rising rents were introduced, and again yearly settlements which of late years had been in great measure left to the village clerks and headmen. The seasons had been uncertain and bad. There was a mass of outstanding balances, and large remissions, much of which the native officers stopped on their way to the people, completed the confusion. [Bom. Gov. Rev. Rec. 666 of 1835, 7. Mr. Williamson believed that not one-half of the remissions had reached the landholders and not one-half of the collections had reached the Government. The frauds took place during the third year (1831-32) of the operation of the survey rates and were exposed during the fourth year (1832-33). The Rev. Commissioner's reports on the subject are dated 24th October 1832 and 19th August 1833. Mr. Williamson says in March 1835, ' Of the extent of the peculations of the district and

village officers some conception may be formed from the exposure of their corruption which followed my last visit to the *pargana* and from the judicial inquiries which terminated in the conviction and punishment of the mamlatdar and several of the local officers who had shared in the village spoils.' In some places the unauthorized collections actually exceeded the authorized. In one case the unauthorized collections amounted to Rs. 357 against a Government demand of Rs. 137; in another case the unauthorized collections amounted to Rs. 789 against a Government demand of Rs. 255; in a third case the unauthorized collections amounted to Rs. 321 against a Government demand of Rs. 133; in a fourth case ' while the receipts of Government amounted to Rs. 303, Government were defrauded of Rs. 368.' Mr. Williamson, Rev. Comr. 26th March 1835, Rev. Rec. 666 of 1835, 11-12.] Mr. Williamson, while admitting that the survey was not the cause of all the evils from which Indapur suffered, agreed with Lieutenant Shortrede that the survey assessment should not be continued. [Bom. Gov. Rev. Rec. 666 of 1835, 14.] Mr. Williamson thought Lieutenant Shortrede's scheme of an experimental year followed by a ten years' lease was well devised. He thought it could be carried out with no material obstacle. The system was simple and the rent moderate. The people would at once understand it and take to it. Mr. Williamson approved of the *chahur* as the unit of assessment. Until they had been puzzled and paralysed by survey rates, reductions, suspensions, and remissions, the landholders had always spoken of their holdings as fractions of a *chahur*. The area of the *chahur* varied with the soil from 90 to 120 *bighas*. The *chahur* was not a completely accurate unit, but where irregularities existed they might, he thought, be removed at the settlement. [Bom. Gov. Rev. Rec. 666 of 1835, 17-18] Mr. "Williamson thought the *chahur* rates proposed by Lieutenant Shortrede, £6 (Rs. 60) on the best lands and £5 or £4 10s. (Rs. 50 or Rs. 45) on inferior lands, low but not too low considering the impoverished state of Indapur, the uncertain rainfall, the want of people, and the urgency of stopping yearly remissions. [Bom. Gov. Rev. Rec. 6 of 1835 18.] Simplicity was a great merit in any settlement. As the soil of Indapur was unusually uniform, he thought two rates would be enough. At the same time he thought that the settlement officer should have power to meet local peculiarities by special rates. He approved of Lieutenant Shortrede's proposal to grant ten-year leases and dwelt on the importance of limiting the area leased to each holder. If the holder took up more land than he was able to till, a slight misfortune might upset his plans and make him fail in his engagements. [Mr. Williamson, 26th March 1835. Bom. Gov. Rev. Rec. 666 of 1835, 20-21.] The lease should have some provision to ensure an abatement of the demand in a year of failure of crops. He

objected to the grant of leases in the form of *Kauls* with rising rentals. Remissions of this kind were occasionally necessary, but the practise on any large scale was evil. It led men to leave their old fields, take rent-free land, and again throw it up as soon" as the rent had increased to a moderate amount. [Bom. Gov. Rev. Roc. 666 of 1835, 24.] He was opposed to any grants of village leases. As a body the Deccan headmen had been proved to be corrupt, robbing the people on the one hand and Government on the other. With village leases the people would be in the hands of men who were unfit for any position of trust. [Mr. Williamson says (26th March 1835), 'I would endeavour to commence the system directed in Government letter, dated 25th February 1834, before the rains, if good *patils* as farmers were procurable and the circumstances of the villages favoured that mode of settlement.' Bom, Gov. Rev. Rec. 666 of 1835, 26-28.] In June 1835 Government sanctioned the proposed experimental settlement for one year. [Gov. Letter 1326 of 12th June 1835, Bom. Gov. Rev. Rec. 666 of 1835, 73-74.]

In June 1835, on receiving the Government sanction and the Revenue Commissioner's instructions, the Principal Collector Mr. Mills directed his assistant Mr. Goldsmid, who since February 1835 had been in special charge of Indapur, to take steps to carry the plan into effect. [The Principal Collector, 22nd June 1835, Bom. Gov. Rev. Rec. 666 of 1835, 103.]

Mr. Goldsmid, while thoroughly approving of the proposed system, suggested certain changes. [His Report dated 27th June 1835, Bom. Gov. Rev. Rec. 666 of 1835, 105 -124.] He was satisfied of the necessity of reassessing Indapur. After spending nearly four months in the subdivision (February-June 1835) he was certain that no scheme could be devised better calculated to injure the interests of both Government and its subjects than the existing system. [Bom. Gov. Rev, Rec. 666 of 1835, 106-107.] On two points he desired the instructions of the Revenue Commissioner, the term for which the settlement was to be made, and the unit of measurement. As the expense would be the same for one or ten years, on the score of economy he recommended a ten years' settlement. Another and still stronger reason for the settlement being made at once for ten years was that if the land was given out on the liberal terms proposed by the Revenue Commissioner, so that in years of partial failure no remissions might be requisite, the loss to Government would be comparatively speaking immense unless the settlement were followed by a large increase of cultivation. The resident landholders were not numerous enough to ensure the requisite increase of cultivation, and

outsiders could not be expected to come and build dwellings and clear waste merely because the land was assessed low for one year. As regards the unit of measurement Mr. Goldsmid was not in favour of the *chahur* or 120 *bighas*. The *chahur* was not a definite measure of quantity. It would therefore be necessary to have a number of different *chahur* rates to equalize the difference in area. If acre rates were introduced in dry-crop land three rates would generally be sufficient. [Bom. Gov. Rev. Rec 666 of 1835, 113-114.] In the absence of trustworthy evidence, it was necessary in assessing the land to visit every field and examine its soil and position. Mr. Goldsmid proposed to engage four native clerks unconnected with the district. Every morning and evening these clerks would prepare statements of the quality quantity and situation of the land. Mr. Goldsmid would himself revise the returns so closely as to make fraud impossible. During the heat of the day, with the aid of fresh clerks Mr. Goldsmid would prepare from the revised returns detailed statements of the class to which each field belonged, the number of *bighas* it contained, and the rate at which it should be assessed He proposed to arrange the *jirayat* or dry-crop land into three classes, and to assess them according to either of two scales, two. three, and four acres the rupee or three, four, and five acres the rupee. He preferred the lower scale, as with the higher scale in Indapur where rain was so scarce, remissions would be often required. To enable Government to form a just opinion regarding the relative merits of the two scales, before entering into engagements with the landholders, he promised to submit the result of the settlement of ten villages. On completing his arrangements in every ten villages he proposed to give the landholders written agreements to the effect that they were to be allowed to reap the whole advantages of any improvements they might make in their holdings and keep them at a fixed rate for ten years. He would also, where procurable, enter a neighbouring number or two which the landholders should be allowed to take for tillage within a certain period of years at rates determined according to the proposed scale. Regarding the area of land to be put aside and the term within which the exclusive power of claiming it should remain with the landholder, Mr. Goldsmid asked to be allowed to exercise his discretion. It would, he said, be impossible to follow any one fixed and uniform scheme even in a single village. He would give effect to the liberal orders of Government directing that landholders be permitted to take up land without paying fee or *nazarana*. At the same time he feared that by giving out land at the low rates proposed, there might be risk that casual or *vpri* landholders would take up more waste or *gatkul* land than they could afford to till and keep out more deserving tenants. [Bom. Gov. Rev. Rec. 666 of 1835,117.] To prevent this he proposed that, unless a holder took up

the land within one to four years, his claim to it should cease. Mr. Goldsmid found the rates in garden or watered land ridiculously low. The sacrifice of the Government share had not even the effect of enriching the landholder. The bulk of the profits passed to some moneylending Brahman who agreed to pay the Government dues if he got half of the crop and sometimes persuaded the holder to take an advance to grow some rich crop. When the soil was exhausted by this heavy crop the Brahman would withdraw from the arrangement. [Bom. Gov. Rev. Rec. 666 of 1835, 117-119.] Mr. Goldsmid thought Government revenue was being needlessly sacrificed. He proposed that the garden land of Indapur should be assessed at 4s. (Rs. 2) an acre. If higher rates were fixed remissions might be necessary. He thought that channel-rates might be higher than well-rates. He was anxious to introduce the new well-rates at once. The dry-crop rates could not be brought into force till 1836-37 (*Fasli* 1246). [Mr. Goldsmid, 27th June 1835, Bom. Gov. Rev. Rec. 666 of 1835, 119-124.]

In forwarding Mr. Goldsmid's letter to Government Mr. Williamson (24th July 1835) [Bom. Gov. Rev. Rec. 666 of 1835, 77 - 85.] agreed that, considering Mr. Goldsmid's special knowledge of the villages, it would be safe at once to introduce a ten years' lease. He also withdrew his objection to the use of the acre as the unit of measurement. As regards rates Mr. Williamson thought it would be advisable to introduce a fourth or lower rate for specially poor soils. He did not agree with Mr. Goldsmid that there was much risk that landholders would take land they were not able to till. He thought that a man should be left free to take land if he chose. In 1832 when Government had taken off the well cess they stated that it might afterwards be found advisable to raise the rates levied on garden land. He agreed with Mr. Goldsmid that the rates should now be increased. [Bom. Gov. Rev. Rec. 666 of 1835, 82, 97-98.] The enhanced rates should be light, but he would leave it to Mr. Goldsmid, acting under the Principal Collector's superintendence, to fix its amount. He thought that where a village was deserted or was much decayed Mr. Goldsmid might be allowed to grant the village in lease. But, except perhaps on inferior lands, the rates should be fixed before the village was leased. [Bom. Gov. Rev. Rec. 666 of 1835, 77-85.] On the 7th of September 1835 Government approved and sanctioned the ten years' settlement and adopted the acre as the unit of measurement. [Gov. Letter 2056 of 1835, Bom, Gov. Rev. Rec, 666 of 1835, 141 -156.] Government agreed that the fixing of the rates of assessment should be left to Mr. Goldsmid. They did not approve of the proposal to levy an additional cess on garden land. They also thought the proposal to reserve for

each landholder a portion bordering on his holding unnecessary. If carried out, there was the risk that some of the richest land in the village might remain waste. They thought that with such low rates it might be necessary to guard against villagers taking up more land than they could afford to till. The village officers were in every case to inform the settlement officer of the condition of men anxious to take land. They agreed that Mr. Goldsmid should inquire into village claimants and expenses and into temple allowances, and that where he thought it advisable he should grant decayed villages in lease to headmen. [Gov. Letter 2056 of 1835, Bom, Gov. Rev. Rec. 666 of 1835, 141-156.]

In August 1835 Mr. Goldsmid had Mohol, now in Sholapur added to his charge. He brought to light a system of fraud which Government (24th November 1835) described as a discredit to British rule. [Bom. Gov. Rev. Rec. 666 of 1835, 245.] Under these frauds the people were suffering so severely that Mr. Goldsmid believed that numbers would have left had they not taken heart at the sight of a European officer come to live among them. [Mr. Goldsmid, 22nd August 1835, Bom. Gov. Rev. Rec. 666 of 1835, 78, 204 214, 218, 219.] Mr. Williamson recommended that an engineer officer should be placed under Mr. Goldsmid to conduct surveys and to relieve Mr. Goldsmid from the labour of checking measurements. [Mr. Goldsmid in charge of Indapur and Mohol, 22nd August 1835; Mr. Williamson, 1541 of 22nd September 1835, Bom. Gov. Rev. Rec. 666 of 1835, 201 -204.] Government appointed Mr. Blakiston assistant to Mr. Goldsmid, and said that as soon as another writer, that is civilian, was available he would be appointed. They also approved of Mr. Williamson's plan of placing an engineer officer under Mr. Goldsmid's orders for survey purposes. Lieutenant Wingate was appointed to this special duty. [Gov. Letter 2733 of 24th November 1835, Rev. Rec. 666 of 1835, 245-248.] In October 1835 Lieutenant Shortrede [His reports are dated 1st October and 10th November 1835, Bom, Gov. Rev. Rec. 698 of 1836, 75, 95.] made proposals for a revised assessment in Purandhar where the rates of Mr. Pringle's survey had been found so unsuitable that since 1830 they had been given up and the old or *mamul* rates adopted. [Bom. Gov. Rev. Rec. 698 of 1836, 35-36.] There were two difficulties in fixing the assessment of Purandhar, the village papers had been falsified and eight or nine land measures were in use. Of the land measures the chief were the *bigha* and the *chahur* of 120 *bighas*. [Their names were *bigha*, *chahur*, *rukka*, *takka*, *partam*, *paika*, *dori*, *khandi*, and the acre introduced under Mr, Pringle's survey (1825-30). The *kathi* or rod used in measuring a *bigha* was of 119 1/6 inches or 5/6 ths of an inch short of ten feet. By this

measure about 37 *bighas* went to 35 acres. But, in fact, the *bigha* was large or small according as the land was bad or good though the variety in area due to the quality of the soil was not uniform. The *bigha* was the only unit besides the acre which professed to be a measured quantity of land. Bom, Gov, Rev. Rec, 698 of 1836, 83-84,]

The rates of assessment under Nana Fadnavis when the country flourished were not uniform in every village nor in every year. In villages where the soil was of ordinary quality the rates seemed to have varied from £6 to £9 (Rs. 60-90) the *chahur*; villages whose lands were generally of good quality were assessed at £9 to £12 or £13 (Rs. 90 to 120 or 130); and a few villages whose lands were of inferior quality were assessed at £3 12s. to £6 (Rs. 36-60). For some years after the great famine of 1792 assessment was low probably on account of the exhausted state of the country. It increased till the famine of 1803 when it again fell to about one-fourth of the full rate. Under Bajirav it rose in a few years to the full rate and continued at or beyond the full rate till the country came into the possession of the British. The hereditary village officers took advantage of the ignorance of British officials to falsify the village records. This in Lieutenant "Shortrede's opinion was a principal cause of the bad management from which the country had since suffered. The want of honest documents and the interested and corrupted statements which had taken their place had caused the disorder which the revenue survey was meant to cure. Mr. Pringle's survey rates had been judged unsuited for Purandhar and were in force for only one year (1829-30). Under these circumstances Lieutenant Shortrede thought (1st October 1835) that nothing more than a temporary settlement could be proposed. Even for a temporary settlement the means available were deficient. Pull half of the lands were lying waste (1835). In his opinion the documents of the British Government were chiefly useful as showing by what means the country had been brought to so miserable a state. Lieutenant Shortrede thought that as an immediate settlement was wanted, the only plan was to use Nana Fadnavis' documents as the basis of the settlement, and to apply the results of neighbouring and similar villages to villages which had none of Nana Fadnavis' records. In Nana's times there were few cesses or *babtis*. Many were introduced under Bajirav. In 1830 when the original or *mamul* rates were ordered to be enforced, Bajirav's cesses were included. Lieutenant Shortrede thought this a mistake and that all or almost all cesses should be remitted. He also recommended that the village claimants or *hakdars* should be paid by Government and not by the villagers, as these payments were a cause of grievous extortion. [Closely connected with the *babs* and *haks* was the *batta* or exchange on the rupees current in the Purandhar sub-division in order to make

up the deficiency in their value. It seemed to be a general practice for the *kulkarni* and *patil* to take from the people double of the authorized exchange and the people complained much of the hardship to which they were subject from the variety of coins current through out the country, though they did not seem aware of the particular fraud thus practised with impunity on them by the *patil* and the *kulkarni*. Bom, Gov. Rev. Rec. 698 of 1836, 91-92.] He thought also that serious frauds were committed by the headmen and clerks appropriating to their own uses a large share of the funds which they levied from the people as village expenses or *gaon kharch*. [Bom. Gov. Rev. Rec. 698 of 1836, 95 - 96.] In forwarding this report Mr. Williamson stated that it had never been intended that the cesses should be included in the original or *mamul* rates which were substituted for the survey rates. [Mr. Williamson, 4th January 1836, Bom. Gov. Rev. Rec. 698 of 1836, 36.] He thought that all except perhaps one or two cesses should be given up. He approved of Lieutenant Shortrede's proposal to go back to the rates under which the country had prospered under Nana Fadnavis. But care must be taken to reduce these rated in proportion to the fall in produce prices.. The fall was roughly about one-half which would reduce the rental of Nana's best land from £12 (Rs. 120) the *chahur* to £6 (Rs. 60). [Bom. Gov. Rev. Rec. 698 of 1896, 36-40.] This arrangement he did not suggest as permanent. It was to have effect till trained officers, were available to introduce a correct survey. Any unauthorised increase that could be proved in the village expenses since the beginning of British rule should be reduced. [Mr. Williamson, Rev. Comr. 27 of 4th January 1836, Bom. Gov. Rev. Rec. 698 Of 1836, 35-49.] In January 1836 Government sanctioned the proposed revision. [The Rev. Comr. 27 of 4th January 1836, Gov. Letters 196 and 197 of 22nd January 1836, Bom. Gov. Rev. Rec. 698 of 1836, 35, 155, 157.]

1835-36.

The rains of 1835 were far from favourable. In many subdivisions they were late of setting in; in many places the crops withered for want of moisture and in others they failed altogether. On the other hand in some parts of the district the fall was so heavy as to injure the early crops and to keep back the sowing of the late crops. Locusts appeared in some subdivisions and caused damage, and in the beginning of January 1836 severe cold injured the crops. Under all these disadvantages the land revenue showed a fall of about £6890 (Rs. 68,900). Of this decrease part was owing to a decline in the tillage area and part to an increase in remissions which it was found necessary to grant in consequence of the extensive failure of the

crops. [Bom. Gov. Rev. Rec. 772 of 1837, 9, 30.] About 1835 measures were taken to improve towns and establish markets throughout the Deccan. [Details are given in Bom. Gov. Rev. Rec. 666 of 1835.] In October 1835 Lieutenant Shortrede submitted a report on Mr. Pringle's survey. [Lieut. Shortrede, 24th October 1835, Bom. Gov. Rev. Rec. 698 of 1836, 401-462.] In measuring, Lieutenant Shortrede found errors representing an average of about $16\frac{3}{4}$ per cent. [Bom. Gov. Rev. Rec. 698 of 1836, 342-343, 456 458.] As regards classing Mr. Pringle divided the dry-crop land into three classes, black or *kali*, red or *tambdi*, and gravelly or *bardi*. In Indapur and Purandhar each class was divided into three grades, first second and third, and in Mohol, Barsi, and Sholapur the black *kali* and the gravelly *bardi* had each four grades, and every field throughout the country was entered as belonging to one of these classes and grades. Lieutenant Shortrede inclined to agree with Mr. Pringle that, if the work had been honest, three grades of each class of soil would have been enough for a fair assessment. The first step towards fixing the assessment was to class the land; the next step was to find the net produce. To find the net produce about sixty acres of each class, or as much land as might be cultivated by one eight-bullock plough, was taken, the whole value of the produce was estimated, and the necessary and customary charges of tillage and bringing to market were deducted. Of the net produce thus determined fifty-five per cent was taken as the revenue to be paid to Government. Lieutenant Shortrede thought this system excellent in principle. [Bom. Gov. Rev. Rec. 698 of 1836, 416. The distinguishing feature of Mr. Pringle's settlement was the principle of assessing at a certain proportion of the net produce. Lieutenant Shortrede and the Rev, Cemr. Mr. Williamson did not object to the principle while Lieutenants Wingate and Nash and the Principal Collector Mr. Mills held that the principle was unfair. In their opinion the result of assessing at a certain proportion of the net produce was unfair. Under it the cultivator was remunerated not according to his labour but in proportion to the value of the field on which he laboured. On the same capital, rich soil yielded a much greater profit than poor soil. Lieutenant Wingate gives (Bom. Gov. Sel. CVII., 14, 129) the following statement to show the inequality of Mr. Pringle's survey rates in consequence of being a percentage of the net produce, and shows how the rates might have been fixed so as to render the profit of cultivating every description of land the same:

Rental on Net Produce, How Faulty.

SOIL.	Acres	Value of	MR. PRINGLE'S SURVER	PROPOSED RATES.
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	capable of being cultivated at a yearly expense of Rs. 100.		net produce per acre.			RATES.																	
						55 per cent of net produce or acre rate.			Total rental on the acres is the second column.			Balance of net produce being the profit of cultivation.			Acre Rate.			Total Rental			Balance of net produce being the profit of cultivation.		
	A.	g.	Rs.	a.	P.	Rs.	a.	P.	Rs.	a.	P.	Rs.	a.	P.	Rs.	a.	p.	Rs.	a.	P.	Rs.	a.	p.
1st Black	28	36	2	8	0	1	6	0	39	11	9	32	8	3	1	12	1	50	11	1	21	8	11
2nd Black	29	15	1	15	3	1	1	3	31	10	9	25	11	2	1	3	6	35	13	0	21	8	11
3rd Black	34	33	1	7	9	0	13	0	28	4	9	23	6	4	0	13	10	30	2	2	21	8	11
1st Red	29	13	2	0	6	1	1	9	32	8	6	27	0	7	1	4	9	38	0	2	21	8	11
2nd Red	35	1	1	5	3	0	11	9	25	11	6	20	12	9	0	11	5	24	15	4	21	8	11
3rd Red	40	29	0	14	4	0	7	9	19	11	3	16	12	5	0	5	10	14	14	9	21	8	11
1st Gravelly	40	14	1	2	1	0	10	0	25	3	6	20	6	1	0	9	7	24	0	8	21	8	11
2nd Gravelly	40	34	0	13	2	0	7	3	18	8	2	15	1	7	0	4	9	12	0	10	21	8	11
3rd Gravelly	43	33	0	10	0	0	5	6	15	1	0	12	5	3	0	2	2	5	13	4	21	8	11
Total	--	--	--	--	--	--	--	--	236	7	2	194	0	5	--	--	--	236	7	4	194	0	3

On the other hand Mr. Williamson contended (2297 of 12th October 1838, Bom. Gov. Sel. CVII. 151 -152) that if, as Lieutenant Nash argued, Government were the universal landlord and the cultivators its servants, it would undoubtedly be unjust to leave one man a greater proportionate share of the fruits of his labour than another. But if the object of an assessment was to impose a land-tax, the plan of taking a certain share of the net produce was the only one by which that tax could be fairly fixed, and it was the only means by which any interest could be created in the land stronger than that local attachment which

the Kunbi had for his fields; nor was the comparatively higher assessment of inferior soils, which was caused by such a system, to be deprecated. According to Mr. Williamson, it is perfectly natural and most profitable for the cultivator that the best soils should be the first cultivated as those which in proportion to the capital and labour employed on them yield the best return, and, when the fiscal arrangements of Government invert this natural order of things, it is a clear proof that there is something radically wrong in the system. Government (4739, 31st December 1838, Bom. Gov. Sel. CVII. 157-158) observed that Mr. Williamson's principle carried to extremity would seem to end in the abolition of all, difference of rate or classification, and the settlement of one uniform rate for land of all qualities. Bom. Gov. Sel. CVII.]

After making every allowance for the chance of mistake through carelessness or error, Lieutenant Shortrede came to the conclusion that so many and such striking errors as he found could be the result only of intentional dishonesty and fraud. [Bom. Gov. Rev. Rec 698 of 1836, 415-418.] So great was the amount of fraud in the portions of the work he had tested that Lieutenant Shortrede came to the conclusion, that, except in its measurements, the results of Mr. Pringle's survey could never be used as the basis of any revised assessment. In forwarding Lieutenant Shortrede's report Mr. Williamson (16th May 1836) agreed with Lieutenant Shortrede that nothing short of intentional deceit could explain the grievous mistakes which he had brought to light. [Bom. Gov. Rev. Rec. 698 of 1836, 335-371.] In forty-five out of fifty villages the errors were beyond all moderate bounds. Neither the classification nor the rate of assessment had any connection with the colour or qualities of the soil. In several cases the assessment was glaringly unjust. In one place, fields, on which no grain could be raised except after rains so excessive as to make the black soil almost useless, were entered as of the best soil. Soils were found wrongly classed in almost every village. [Bom. Gov. Rev. Rec. 698 of 1836, 336-337.] The errors ran through whole holdings or *thals*; they were not occasional or accidental but continual and systematic. The holders of alienated or private lands were greatly favoured. The partial manner in which they had been assessed was shown by cases which Lieut. Shortrede had carefully examined and well set forth. A great part of these favoured lands were held by the hereditary village officers. The assessable lands held by the hereditary officers were also recorded in a lower class than they properly belonged to. In several villages Lieutenant Shortrede found that the best land was scarcely ever entered in the best class. In several instances he found that the class at first assigned by the assessor was

fairly correct and had been falsified by the head assessor. In almost every case these deductions had been made in fields belonging to the village officers and rich landholders. [Bom Gov. Rev. Rec. 698 of 1836, 337-340] Another common error in the survey was the over-assessment of poor lands. These errors were so glaring that they seemed to be wilful. Twenty to a hundred cases of fraud might be produced from any village taken at random. [Bom. Gov. Rev. Rec. 698 of 1836, 340-341.] In practice, Lieutenant Shortrede said, the system of fixing what rent a field could bear by the net produce it yielded, failed because of the difficulty of collecting trustworthy information about net produce. [Lieutenant Shortrede (24th October 1835) says, 'Instead of endeavouring, to ascertain by a detailed calculation in every village the exact value of the net produce of each variety of soil, I should have preferred an assessment founded on a proportion of the gross produce decreasing from the rich to the poor soil.' Bom. GOV. REV. Rec. 698 of 1836, 459-462.] On these reports Government unwillingly came to the conclusion that Mr. Pringle's survey and assessment, a work of great labour and enormous expense, which was originally looked to with sanguine expectation, must finally be set aside. Government acquiesced in the Revenue Commissioner's opinion and were satisfied that the survey and assessment were unfit to be made the basis of any revision. [The faults in Mr. Pringle's settlement are given by Lieutenant Nash and Lieutenant Wingate in Bom. Gov. Sel. CVII. 12.16, 108-109, 125-130, 138-140, or CLI. 10-13, 88-89, 103-108, 114-116; Mr. Mills, Principal Collector, 20th September 1838, Bom. Gov. Sel. CVII. 142 or CLI. 118; Colonel Francis in Bom. Gov. Sel. CVII. 11, 16 or CLI. 10, 13; Mr. Williamson the Rev. Comr. 2297 of 12th October-1838, Bom. Gov. Sel. CVII. 151-152; and Gov. Letter 4739 of 31st December 1838, Bom. Gov. Sel. CVII. 157-158.] A fresh revision of the assessment was urgently called for. Considering the miseries which the people suffered from heavy and unequal assessment, every day and every hour of delay was an evil. In regard to the mode of effecting the revision the only general rule which Government could lay down was, that a patient searching and accurate inquiry must be made into the individual nature and capabilities of every acre of soil which the survey included. In such a case no abstract or general principle could be applied. Government hoped that under the management of the Revenue Commissioner Mr. Williamson, the present revision would be successful. Besides the talents and information that could now be brought to the work, the agents had learned much from past errors. Every step they took would be founded on experiment and must lead to improvement. Government determined that under the general superintendence and direction of the Revenue Commissioner the work of survey and assessment should

in each subdivision or *taluka* be carried on by the Collector or the assistant collector who might be in charge of it aided either by an engineer officer or any other competent military officer. In the Poona collectorate the military officers were to be distributed according to the following arrangement. Lieutenant Wingate was to survey Mohol and Madha under Mr. Goldsmid; Lieutenant Nash was to survey Indapur under Mr. Goldsmid according to the system introduced by Mr. Goldsmid and Lieutenant Wingate; Lieutenant Shortrede was to have charge of Bhimthadi in addition to Purandhar and was to have Lieutenant Gaisford as an assistant; Lieutenant Calland was to survey Khed and Maval; Ensign Diggie was to survey Junnar and Pabal; Lieutenant Hart was to survey Sholapur; and two other officers were nominated to survey Barsi and Haveli. [Of the sub-divisions named in the text, Mohol, Madha, Sholapur, and Barsi are now (1884) in Sholapur; and Indapur, Bhimthadi, Purandhar, Khed, Maval, Junnar, Pabal, and Haveli in Poona.] To render the proposed arrangement for surveying and revising the assessment fully available and beneficial, Government impressed on all officers concerned the necessity of harmony in work and of unity in system. [Gov. Letter 3024 of 3rd Nov. 1836, Bom. Gov. Rev. Rec. 698 of 1836, 483-492.]

1836-37.

Except in Junnar the 1836 rainfall seems on the whole to have been favourable. Of the total remissions of £16,503 (Rs. 1,65,030), £13,110 (Rs. 1,31,100) were granted on account of bad crops and £3393 (Rs. 33,930) for other causes. [The details of remissions on account of bad crops are: Sholapur and Barsi Rs. 260, Mohol and Madha Rs. 1300, Haveli and Bhimthadi Rs. 24,170, Khed and Maval Rs. 17,120, Shivner or Junnar and Pabal Rs. 78,900, Purandhar Rs. 6830, Indapur Rs. 2480, and Poona City Rs. 40, total Rs. 1,31,100.] Of the total land revenue £119,452 (Rs. 11,94,520) were collected and £6954 (Rs. 69,540) were left outstanding by the end of August 1837. In the nine Poona sub-divisions eight new wells were built and twenty-eight old wells were repaired. Markets were established in several villages. [The Collector Mr. Mills, 12th January 1838, Poona Collector's Compilation, Jamabandi Reports, 1836-38.] In April 1837 the Collector Mr. Mills drew attention to the great loss and hardship caused by the levy of customs and transit duties. He was of opinion that the abolition of the transit duties would give much relief to the agricultural and manufacturing classes. Transit duties caused great trouble and annoyance to trade and many difficulties to husbandmen in disposing of their produce. They were one cause of their poverty and of the decline of the land revenue. Mr. Mills recommended that these duties

should be abolished. So long as they existed, neither trade, manufactures, nor agriculture could flourish. This opinion of Mr. Mills had the support of Lieutenant, afterwards Sir George Wingate, who held that the transit duties were one of the chief causes of the husbandmen's poverty. The holders of land would hail the abolition of transit duties as one of the greatest boons. [Mr. Mills, Principal Collector, 25th April 1837, Bom. Gov. Rev. Rec. 772 of 1837, 32-34.] Transit duties were abolished in September 1837. [Lieutenant Evans in Purandhar Survey Report, 13 of 18th Feby. 1847 para, 10 In consequence of most elaborate and vigorous protests from Mr. Davies in 1836 transit duties were abolished in Thana. Bombay Gazetteer, XIII. 581.]

[Survey, 1836-1838.](#)

The chief measure connected with the administration of the land in 1836-37 was the introduction of the thirty years' revenue survey settlement into the Kalas petty division of Indapur. Apart from the ruinous element of fraud in Mr. Pringle's survey in Indapur, the general failure of the 1829 harvest had altered the character of his settlement and filled, the revenue accounts with confusion and uncertainty. [Bom. Gov. Rev. Rec. 666 of 1835, 9-12. Bom. Gov. Sel. CVII. 16-17.] Between 1829 and 1834 the Indapur husbandmen suffered grievously from the frauds of the village officers and under Government servants. The stoppage of or at least the great reduction in these abuses in 1834 and a change for the better in the seasons improved the condition of Indapur. The revenue returns for the three years ending 1835-36 show average receipts amounting to £6145 (Rs. 61,450) or an increase of £4450 (Rs. 44,500) on the corresponding receipts in the three years before 1833-34. [The details are:

Indapur Revenue, 1826-1836.

YEAR.	Rental.	Remissions.	Outstandings.	Collections.
	Rs.	Rs.	Rs.	Rs.
1826-27	79,197	12,810	3175	63,212
1827-28	68,334	41,947	4373	22,015
1828-29	74,688	232	13,613	60,843
1829-30	1,05,705	--	84,408	21,297

1830-31	64,130	48,550	2693	12,887
1831-32	73,200	52,124	273	20,803
1832-33	75,502	57,969	371	17,162
1833-34	83,079	--	21,989	61,080
1834-35	70,932	6207	3643	61,082
1835-36	74,550	12,162	201	62,187

In February 1867 (Bom. Gov. Sel. CVII. 21 or CLL 18) Colonel Francis wrote that Mr. Goldsmid Introduced his Indapur settlement when the revenue of the sub-division'was falling and cultivation decreasing and when there were heavy outstand-ins balances. This does not agree with the above statement of the Indapur revenues which Colonel Francis gives in para 30 of the same report The statement shows that Indapur began to mend from 1833-34 not from 1836-37.]

It was under these comparatively favourable circumstances that, with the assistance of Lieutenant Wingate, Mr. Goldsmid in-troduced a revised survey and assessment in the Kalas petty division of Indapur in 1836. [Bom. Gov. Sel. CVII. and CLI] Mr. Goldsmid proposed that every field should be examined and the quality of its soil and the advantages or disadvantages of its situation determined. Government were anxious that the measurements of Mr. Pringle's survey should form the basis of the new settlement. The former measurements were accordingly in each case tested: Where the error was less than ten per cent the old measurements were kept and if necessary corrected; where the errors were so great as to be likely to vitiate the assessment the whole village was re-measured. As regards the classing of soil Mr. Goldsmid proposed to arrange the dry-crop or *jirayat* lands under the three heads of good or *uttam*, middle or *madhyam*, and bad or *kanishth*. It was in his rules for classing the soil that Mr. Goldsmid's system showed itself most superior to Mr. Pringle's system. Under Mr. Pringle's system so many considerations were left to the decision of the classer, the quality of the soil, its position, and its advantages, that it was impossible to have any uniformity in the classing of soils and it was impossible to test the care or the honesty of the classer. Mr. Goldsmid rejected the whole of the former classing. The attention of the classers was directed entirely to the quality of the Boil of each field. The classer had nothing to do with any other considerations. [Bom. Gov. Sel. CVII. 28; Mr. Goldsmid, Surv. Supt 47 of 1st Nor. 1840 paras 66-67, Bom. Gov. Sel. CXXX.] All other considerations belonged to the question of the assessment not to the

question of the class of land. Even after confining the classer's attention to the quality of the soil it turned out in practical working that to determine the quality of the soil of a field required a much more elaborate arrangement than the original rough grouping into good, middle, and bad. To meet this difficulty Mr. Goldsmid and Lieutenant Wingate devised a plan of arranging the soil under three main groups according to colour, black red and yellow, and of dividing each of the three main groups into three grades or classes, that is into nine grades in all [Bom. Gov. Sel. CVII. 23-24, 29-30; Lieut. Davidson, 1st Sept 1840 para 2, Bom. Gov. Sel. CXXX.] A value was assigned to each of the nine grades, twelve *annas* or $\frac{3}{4}$ ths being the highest and two *annas* or one-eighth being the lowest. As regards the dry-crop rates Mr. Goldsmid suggested an alternative scale, for good lands either two or three acres to the rupee of assessment; for middle lands either three or four acres; and for poor lands either four or five acres. He was strongly in favour of the lower scale of rates. If the higher scale was adopted he thought that in a tract which suffered so greatly from uncertain rainfall frequent remissions would continue necessary. [Bom. Gov. Sel. CVII. 24.] It was at first proposed that the settlement should last for ten years instead of for one year and the period was afterwards lengthened from ten to thirty years. [Bom. Gov. Sel. CVII. 24, 25, 33, 35.] Of the seventy-three and a half Government villages of Indapur, the villages forming the Kalas group were settled in 1836-87 and the rest in 1837-38. [There were besides two and a half villages which were settled in 1845. Bom, Gov. Sel. CVII. 29.] The following statement shows the tillage and revenue of the Indapur sub-division between 1818-19 and 1836-87:

Indapur Tillage and Revenue, 1818-1837.

[The Indapur *sher* is larger than the Poona *sher*; the Poona *sher* is more than double the Bombay *sher* (Lieut. Nash, 1838); 216,000 *bighas* nearly equal 182,000 acres. Bom. Gov. Sel. CVII. 118, 120, 121; CLI. 96.]

YEAR.	VILLAGE.		<i>Ain Jama.</i>	<i>Sayar Jama.</i>	Total	Remissions.
	<i>Bighas.</i>	Acres.				
			Rs.	Rs.	Rs.	Rs.
1818-19	215,911	--	1,30,782	1533	1,32,315	--

1819-20	210,532	--	1,56,191	6300	1,62,491	--
1820-21	203,446	--	1,38,988	6645	1,45,653	20
1821-22	210,968	--	1,49,024	10,109	1,59,138	1129
1822-23	177,197	--	1,34,150	8403	1,42,553	6655
1823-24	173,896	--	1,43,485	9107	1,52,592	93,877
1824-25	148,562	--	1,23,321	9436	1,32,757	94,121
1825-26	126,544	--	65,398	5344	70,742	9100
1826-27	200,905	--	77,855	6998	83,953	13,509
1827-28	159,273	--	67,111	5711	72,842	42,602
1828-29	157,754	--	73,358	5536	78,894	232
1829-30	--	126,050	1,03,653	6168	1,09,821	--
1830-31	--	132,416	63,806	5438	69,244	7
1831-32	--	130,671	71,770	5291	77,061	53,522
1832-33	--	134,564	74,035	5488	79,523	59,523
1833-34	--	150,604	81,502	6031	87,543	10
1834-35	--	126,310	69,601	6040	75,641	6400
1835-36	--	131,707	73,144	8103	81,247	12,578
1836-	--	159,900	73,212	7078	80,290	6156

37						
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continue.

YEAR.	Claims.	For Collection.	Outstandings.	Collected.	RUPEE PRICES.	
					<i>Jvari.</i>	<i>Bajri.</i>
	Rs.	Rs.	Rs.	Rs.	Shers.	Shers.
1818-19	22,178	1,10,137	11,249	98,888	17	15½
1819-20	34,064	1,28,427	6834	1,21,593	19½	12¼
1820-21	21,901	1,28,732	4261	1,19,471	32	16
1821-22	24,354	1,33,650	4593	1,29,057	32	--
1822-23	27,180	1,08,718	71,753	36,965	32	24
1823-24	26,334	32,-381	13,049	19,332	36¾	23
1824-25	29,560	9076	2771	6305	12½	--
1825-26	17,785	43,857	4920	38,937	44	34
1826-27	19,890	50,554	3824	46,730	64	--
1827-28	15,340	14,900	6154	8746	32	--
1828-29	18,647	60,015	16,653	43,362	80	68
1829-30	17,443	92,378	44,358	48,020	46	--
1830-31	17,910	51,327	43,206	8121	40	38½

1831-32	11,637	11,902	558	11,344	60	35
1832-33	9146	10,854	997	9857	23	36
1833-34	27,965	59,568	23,933	35,635	46	34
1834-35	22,634	46,607	4955	41,652	48	44
1835-36	21,864	46,805	1327	45,478	38	--
1836-37	23,533	50,601	402	50,199	66	49

The effect of the rates introduced by Mr. Goldsmid and Lieutenant Wingate was to reduce the *jamabandi* or rent settlement from £9903 (Rs. 99,030) in 1836-37 to £7279 (Rs. 72,790) in 1837-38 or 26 per cent. [Bom. Gov. Sel. CVII. 36.] This rental of 1837-38 was not much lower than the average settlement £7545 (Rs. 75,450) in the five years before 1836-37. [Bom. Gov. Sel CVII. 21.]

This survey and settlement of Indapur has the special interest of being the first application of the union of wise principles and ingenious practical devices, which has since become so well known and so widely adopted under the name of the Bombay Revenue Survey system. The new settlement was gradually introduced group after group into all the villages of the Poona district, the work ending with the settlement of the Mavals in 1853-54.

Survey, 1836-1854.

The following statement gives the survey rates introduced into the different groups between 1836 and 1854 [Bom. Gov. Sel. LXX. 88. Four hundred *res* make a rupee or two shillings. The highest drycrop survey acre rates in Khed were Rs. 1⁵/₈, Rs. 1¹/₂, Rs. 1³/₈ Rs. 1 ¹/₄, and Re. 1, and in Maval Rs. 1¹/₂, Rs. 1³/₈, Rs. 1¹/₄, and Re. 1. Bom. Gov. Sel. LXX. 4; Bom. Gov. Rev. Rec. 172 of 1853, 107.]:

Poona Highest Dry-crop Survey Acre Rates, 1836-1854.

GROUPS.	BLACKS.	REDS.
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	First.	Second.	Third.	Fourth.	First.	Second.	Third.	Fourth.
	<i>Res.</i>	<i>Ret.</i>	<i>Res.</i>	<i>Res.</i>	<i>Ret.</i>	<i>Ret.</i>	<i>Res.</i>	<i>Res.</i>
Indapur	300	240	170	--	220	130	75	--
Kalas	300	240	170	--	220	130	90	--
Baramati	330	265	185	--	220	145	80	--
Bhimthadi	375	300	230	--	260	180	130	--
Kurkumb	330	265	185	--	220	145	100	--
Pabal	490	390	270	--	320	230	130	--
Ausari								
Haveli	550	450	350	250	475	375	275	175
Donja								
Purandhar	450	372	264	--	312	228	156	--
	394	325	231	--	273	199	136	--
	356	295	209	--	247	181	124	--
Supa	345	275	195	--	230	155	85	--
	330	265	185	--	220	145	80	--
Bori	580	470	330	--	450	325	175	--
	490	390	270	--	350	250	130	--
	390	310	220	--	260	180	110	--
Brahmanvadi	650	530	390	--	500	360	187	--
	600	480	340	--	450	310	150	--
	480	384	272	--	320	208	120	--
	390	312	221	--	260	169	97	--

continue.

GROUPS.	GRAVELLY OR <i>BARAD.</i>			ALLUVIAL OR Dheli and Kevtal.		
	First.	Second.	Third.	First.	Second.	Third.

	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Ret.</i>	<i>Res.</i>
Indapur	100	60	35	800	700	--
Kalas	75	45	35	--	--	--
Baramati	110	65	40	380	285	--
Bhimthadi	165	100	60	--	--	--
Kurkumb	110	65	40	400	--	--
Pabal	180	100	60	650	600	--
Ausari						
Haveli	240	140	60	--	--	--
Donja						
Purandhar	192	120	78	--	--	--
	168	105	68	--	--	--
	152	95	62	--	--	--
Supa	115	70	40	--	--	--
	110	65	40	380	285	285
Bori	210	120	70	700	650	--
	180	100	60	650	600	--
	140	80	50	500	390	--
Brahmanvadi	250	150	87	--	--	--
	200	120	70	--	--	--
	160	95	56	--	--	--
	130	78	45	--	--	--

The following statement shows that in the seventeen years ending 1854 during which the revenue survey system was being introduced into the Poona district the tillage area spread from 895,438 acres in 882 villages in 1839-40 to 1,368,430 acres in 941 villages in 1853-54 and the collections rose from £63,612 (Rs. 6,36,120) in 1837-38 to £72,476 (Rs. 7,24,760) in 1853-54. The details are:

Poona Tillage and Revenue, 1837-1854.

YEAR.	INDA'PUR MILLET RUPEE PRICES.		Villages.	Tillage.	Remissions.	Out- standings.	Collections.
	<i>Jvari.</i>	<i>Bajri.</i>					
	<i>Shers.</i>	<i>Shers.</i>		Acres.	Rs.	Rs.	Rs.
1837-38	36	44	882	--	72,410	45,745	6,36,124
1838-39	67	30	882	--	1,86,263	19,204	5,48,115
1839-40	44	30	882	895,438	1,06,399	4944	6,70,966
1840-41	64	44	883	947,840	99,262	17,503	6,82,792
1841-42	56	40	889	982,600	1,20,314	24,408	6,42,961
1842-43	68	42	892½	1,000,881	26,937	9635	7,69,580
1843-44	72	44	900½	1,055,282	42,917	4498	7,44,422
1844-45	60	36	933	1,063,127	92,395	33,321	6,89,399
1845-46	36	25	938	1,102,088	1,05,947	27,983	6,88,837
1846-47	15	13	937	1,148,755	19,283	22,473	8,16,606
1847-48	48	32	839	1,228,304	24,622	7176	8,18,451
1848-49	72	56	940	1,227,898	40,610	11,838	7,75,355
1849-50	72	56½	940	1,196,719	31,483	10,759	7,62,429
1850-	38	34	937	1,215,015	51,961	4168	7,30,324

51							
1851-52	40	32	942	1,273,394	28,352	3258	8,04,623
1852-53	56	40	942	1,816,767	7278	452	8,00,721
1853-54	56	36	941	1,368,430	82,942	2498	7,24,762

1835-1844.

Of other measures which combined with the revenue survey to improve the district during this period, the introduction of petty divisional officers or *mahalkaris* between 1835 and 1838, and the abolition of transit dues in 1837 have been noticed. The repeal of cesses under Act XIX. of 1844, and the spread of public works also did much to improve the state of the district. The appointment of mahalkaris [For details see Bom. Gov. Rev. Rec. 666 of 1835.] or petty division officers subordinate to mamlatdars or sub-division officers in Poona and other Deccan districts about 1835 was the work of the Revenue Commissioner Mr. Williamson. The repeal of cesses under Act XIX. of 1844 had the evil effect of freeing from taxation large classes of traders who profited more than any section of the community by the English maxims of government, and who were among the best able to pay of the whole population. At the same time it no doubt proved a relief and caused an increase of wealth. The introduction of public works especially of roads greatly enriched the district. It gave much-wanted employment to husbandmen when field work was slack; it opened markets for field produce, and by cheapening the cost of carriage added to the value of exports and lowered the price of imports.

1837-38.

The season of 1837 was very unfavourable. In November 1837 throughout the district a heavy and untimely fall of rain caused serious damage both to the standing crops and to the stacked corn, At Indapur the rupee price of Indian millet or *jvari* rose from about 86 to 72 pounds (43-36 *shers*). In the whole district £12,566 (Rs. 1,25,660) or 13 per cent of the land revenue were remitted and about eleven per cent-left outstanding. [Bom. Gov. Rev. Rec. 974 of 1839, 54, 197-198.] The net revenue showed a fall of £13,050 (Rs. 1,30,500). This decrease was chiefly due to the abolition of town and transit duties,

the discontinuance or modification of objectionable taxes, and a fall in the amount of judicial receipts. [Bom. Gov. Rev. Rec 974 of 1889,1, 22, 214.] In January 1838 Mr. Mills, the Collector, observed that the general poverty of the landholders was well known to Government. He hoped that the introduction of superior product, the revision of the assessment, and the abolition of transit duties and other taxes which fettered the energies of the landholders, would' soon enable them to better their circumstances. [Poona Collector's Compilatioa, Jamabandi Reports, 1836-38, 26.] The introduction of the thirty years' revenue survey settlement into Indapur,

Poona Remissions. 1836-1838.

SUB-DIVISIONS.	1837-38.	1836-37.	Sub-Division.	1837-38.	1836-37.
	Rs.	Rs.		Ra.	Rs.
Shivner	4632	66,448	Mohol	8031	2867
Indapur	4416	6156	Sholapur	15,935	4904
Khed	13,142	17,434	Barsi	10,856	2515
Pabal	14,072	22,018	Madha	17,135	8786
Purandhar	3070	6984	Poona City	85	76
Bhimthadi	15,599	16,473	Grazing	114	--
Haveli	12,119	10,967	Total	125,657	171,156
Maval	6451	6526			

which was begun in 1836, was finished jn 1837-38. The first year (1837-38) of the new rates showed satisfactory results. The area under village had increased in two years (1836-37) by 66,900 acres; [According to another account, the tillage area in Indapur showed an increase from 131,707 acres in 1835-36 to 162,019 acres in 1836-37 and to 189,088 acres in 1837-38. Bom. Gov. Sel. CVII. 120. According to a third statement (Bom. Gov. Rev. Rec. 17 of 1846, 63-66) there was an increase in Indapur in 1836-37 in tillage of 20,073 acres and in revenue of Rs. 5335 and in 1837-38 in tillage of 33,370 acres and in revenue of Rs. 11,402.] the revenue was collected punctually and with ease; there were no outstandings, and fewer remissions. That this improvement was in great measure due to the new settlement was

shown by the fact that no similar improvement had occurred in other parts of Poona. [Mr. Mansfield, assistant collector, 27th November 1838, Bom. Gov. Rev. Rec. 974 of 1839, 188-190. Mr. Mansfield who had charge of Bhimthadi and Indapur and whose opinion as regards the result of the survey settlement in Indapur has been given in the text, writes in the same report (about 1837-38): ' The late heavy rain that fell in November was the source of much distress to the landholders of the *subha* or mamlatdar's division of Bhimthadi in which early or *kharif* crops alone are cultivated while in the Kurkumh petty division where *rati* is the chief product, there were better crops than have been known for several years. The distress above alluded to entailed the necessity of making large remissions which though smaller than those granted the year before (1836-37), were larger than ought ever to be given if the sub-division were lightly and equitably assessed. But as this is very far from being the case in this sub-division in which the villages even in proximity to Poona, which it would have been supposed would have been very flourishing, are half-uncultivated and the cultivators most wretchedly poor, the remissions were made liberally on the ground that it is better to- remit than to allow a balance to remain which may not be paid for years, and perhaps not at all. The decrease in land cultivation, notwithstanding the assistance afforded by Government in advances or *tagai*, the abolition of the transit duties and other vexatious and oppressive taxes, is a forcible example of over-assessment. The mamlatdar of Bhimthadi represented that unless some immediate relief were afforded by reducing the assessment, a further decrease would take place. As there was no establishment capable of making an inquiry into the inequality of assessment, and Lieutenant Nash had begun the survey in the Kurkumb petty division, I issued an order that those who wished to take up fresh land should be assessed only at 12 *as.* or three-fourths of the survey rates, which measure has been attended by the beneficial result of 15,000 acres of fresh cultivation. The same rain that caused so much distress in Bhimthadi proved of signal benefit in Indapur and notwithstanding the entire failure of the *kharif* crop the remissions granted are of less amount than they ever have been. This however might have been expected as the result of the introduction of the new survey. But I bring it prominently to notice as the obviating the necessity of granting remissions was one of the reasons specified for lightening the assessment; if it is also pleasing to be able to record that that object has been partly attained.' Mr. Mansfield, assistant collector, 29th November 1838, Bom. Gov. Rev. Rec. 974 of 1839, 178-182, 187-188.]

1838-39

The season of 1838-39 was again very unfavourable. In some parts of the district rain almost entirely failed. At the same time the rupee price of Indian millet fell at Indapur from about 72 to 134 pounds (36-67 *shers*). In the whole district £18,626 (Rs. 1,86,260) or about 24½ per cent of the land revenue were remitted. [About 7½ per cent in the settled sub-division of Indapur, 43½ per cent in the unsettled sub-division of Shivner or Junnar, and 22½ per cent in the unsettled sub-division of Bhimthadi. Bom. Gov. Rev. Rec. 1098 of 1840, 99. In this year (1838-39) the Sholapur sub-divisions of Sholapur, Barsi, Mohol, and Madha were separated from Poona and included in the charge of the Collector of Sholapur, Poona now comprised 882 Government villages forming nine sub-divisions: Shivner 173, Indapur 74½, Khed 182, Pabal 57, Purandhar 67½, Bhimthadi 69, Haveli 82, Maval 176, Poona City 2. Bom. Gov. Rev. Rec. 1098 of 1840, 3, 19, 26] The collections amounting to £54,811 (Rs. 5,48,110) showed a fall of £8800 (Rs. 88,000) or about fourteen per cent. The outstandings amounted to £1920 (Rs. 19,200). In Indapur, since the introduction of the 1836 survey, about 68,000 acres had been brought under tillage. [Bom. Gov. Sel. CVII. 32, 36. According to another statement, in Indapur in this year (1838-39) tillage showed an increase of 15,555 acres and revenue of Rs. 3073, and in Kurkumb tillage of 11,072 acres and revenue of RS. 1956. Bom, GOV. Rev. Rec. 17 of 1846, 63-66.] In November 1838 the Revenue Commissioner Mr. Williamson noticed that the introduction into Poona of the mahalkari system, and the separation of the Sholapur sub-collectorate had done much to improve the revenue management of Poona. The great want now was the revision of the survey. Though much remained to be done village accounts had greatly improved. The remission of town duties and advances to build shops and repair wells and village offices had done much to improve Supa, Kalas, Mohol, and Sholapur, and the city of Poona had benefited by the remission of taxes and the repair of roads. [Mr. Williamson, Rev. Comr 2610 of 23rd November 1838.]

SURVEY. *Bhimthadi*, 1838-39.

In this year 1838-39 the thirty years' revenue survey settlement was introduced into the Kurkumb petty division of Bhimthadi [Bom. Gov. Sel. CLI. 228.] Bhimthadi was a long narrow belt, chiefly on the left bank of the Bhima, stretching from near Poona to the borders of Indapur. It included two divisions which differed greatly in climate. In the west the Pimpalgaon division, under the mamlatdar, enjoyed a much more certain and abundant supply of rain than the eastern division under the mahalkari of Kurkumb. The climate, soil, and productions of Kurkumb were in every respect similar to those of

Indapur. The chief feature of its climate was scanty uncertain rainfall, and its chief produce was Indian millet or *jvari*. Pimpalgaon enjoyed a considerable rainfall, yielded *bajri*, and was near Poona the chief grain mart in the country. Survey rates were introduced into Kurkumb in 1838-39 and into Pimpalgaon in 1839-40. The horror of Holkar's wasting march in 1802 and the failure of rain and famine of 1803 had wiped out the memory of all older sufferings. The country had scarcely recovered when it passed to the British. Soon after, and probably in the mind of the people because of the Peshwa's overthrow, a plague of cholera swept away a large proportion of the people. During the three years after the Peshwa had been driven from Poona, in the village of Kurkumb out of 1000 people 460 died. Then came the ruinous fall in the price of grain from the spread of tillage, the decline in capital, and the fall in the numbers of the local non-agricultural classes. The failure of rain in 1823, 1824, 1827, 1829, 1830, and 1832 had combined to reduce Kurkumb to a deplorable state.. The earliest year for which local information was available was 1832-33. In that year, as in Indapur a succession of bad years joined with cheap grain had reduced the people to wretchedness and made large remissions necessary, the allotting of which had to be left in great measure to low paid clerks with little supervision. From a nominal or *kacha* rental of £7187 (Rs. 71,870) of the whole Bhimthadi subdivision, £5482 (Rs. 54,820) had to be taken because of remissions, and £462 (Rs. 4,620) because of village expenses, leaving to Government only £1243 (Rs. 12,430)

The land seems to have been very unequally assessed; the average acre rate for dry-crop was 1s. 6s/8d. (12 ⁵/12 *as.*) and for garden 8s. (Rs. 4) besides the dry-crop rate. The people had come to look on remissions as their right. [Lieutenant-Colonel Waddington, Survey Superintendent, 12th July 1871. Bom. Gov. Sel. CLI. 201.] In 1838-39 Lieutenant Nash the survey officer was at a loss how to convey an impression of the poverty of the Bhimthadi villages; more than half the arable land was waste, the villages were ruined, constant remissions were required, and outstandings accumulated. [Bom. Gov. Sel. CLI. 199, 233. At the same time as in Indapur the statement (Sel. CLL 203) of revenues for forty-eight villages of the Bhimthadi subdivision shows a considerable improvement since the year 1833-34. The average collections during the three years before 1833-34 were Rs. 16,360 and in the six years after 1833-34 Rs. 31,570, and in the three last of these six years Rs. 34,350.] Of a total of 191,000 arable acres 106,000 or more than one-half were waste. A portion of this waste was covered with thick thorny bushes, which it would be difficult to clear. The village walls were crumbling and falling, and for one inhabited house two were empty and of many only the open sites

remained. [Bom. Gov. Sel. CLI. 233.] The conditions of the Kurkumb group, the soil, climate, style of tillage, and price of grain so closely resembled Indapur that Lieutenant Nash proposed to introduce the same rates. On account of their greater nearness to Poona Lieutenant Wingate suggested an increase of ten per cent and these revised rates were approved and introduced. [Gov. Letter 4619 of 24th December 1838. Bom. Gov. Sel. CLL 228, 239.]

1839-40.

In February 1840 Mr. Stewart the Collector remarked that where the new survey rates had been introduced, nearly all the land had been taken up. In many instances the landholders continued to take up land they were unable to cultivate and used it for grazing rather than risk being deprived of it by others. Where the old rates prevailed, much good land was still waste. This could be brought under tillage only by a reduction in the assessment. [Bom. Gov. Rev. Rec. 1098 of 1840, 19-20.] In 1839-40 the latter rains almost entirely failed and the late crops suffered severely. At Indapur the rupee price of Indian millet or *jvari* rose from about 134 to 88 pounds (67-44 *shers*). In the Kurkumb division of Bhimthadi there was an increase of 14,537 acres which was carried out by the landholders with their own capital. [Mr. Stewart, Collector, 19th November 1840, Bom. Gov. Rev. Rec. 1241 of 1841, 68, 69. In Indapur tillage increased by 5625 acres, and revenue by Rs. 1526; in Bhimthadi the increase was 17,490 acres under tillage and Rs. 7458 under revenue. Bom. Gov. Rev; Rec. 17 of 1846, 63-66.] In the whole district the area under tillage was 895,438 acres; and though £10,640 (Rs. 1,06,400) or about 13½ per cent of the land revenue were remitted. [In the surveyed and settled subdivisions of Indapur and Bhimthadi the remissions amounted to 4½ and 6½ per cent, while in the unsettled subdivisions they ranged from 6 to 20 per cent (Bom. Gov. Rev. Rec. 1241 of 1841, 41). On the 9th of October 1840 Mr. Mansfield, the assistant collector, wrote, 'I am afraid that for long some remissions must be made whenever there is a want of rain. The landholders as a rule are so extremely poor, in consequence of over-assessment and low produce prices, that in a bad year they have not capital enough to enable them to pay the full assessment. Bom. Gov. Rev. Rec. 1241 of 1841, 39, 177.] the collections were £12,280 (Rs. 1,22,800) higher than in the previous year.

In 1839-40 the survey settlement was introduced into the remaining villages of Bhimthadi. [Bom. Gov. Sel. CLI. 239.] They constituted the charge of the mamlatdar at Pimpalgaon. This group was the western division of Bhimthadi. It had passed through the same trials as the

eastern of Kurkumb group which was settled in the previous year, and the condition of its villages and people was very little better. [During the ten years ending 1839-40 in a group of forty-eight Bhimthadi villages which were afterwards brought under revision in 1871, the remissions averaged £1357 (Rs. 13,570) and the collections £2666 (Rs. 26,660). The details (Bom. Gov. Sel. CLI. 202-203) including extra cesses or *sayar babs* were:

Bhimthadi Revenue, 1830-40.

YEAR.	Settlement.	Remissions.	Outstandings.	Collections.
<i>48 Villages.</i>	Rs.	Rs.	Rs.	Rs.
1830-31	47,725	39,223	--	8502
1831-32	51,274	15,507	6037	29,730
1832-33	50,377	86,954	2576	10,847
1833-34	57,736	--	29,633	28,103
1834-35	55,208	265	23,978	30,965
1835-36	54,309	8417	16,766	29,126
1836-37	58,927	15,040	17,592	26,295
1837-38	54,926	7673	13,003	34,250
1838-39	50,853	9222	10,034	31,597
1839-40	59,674	3373	19,106	37,195
Average	54,101	13,567	13,872	26,661

]

On the other hand there was a notable difference in the rainfall, the staple products, and the character of the soil. Pimpalgaon enjoyed a considerable rainfall, yielded *bajri*, and was near Poona the chief grain mart in the country. As regards rainfall in the Pimpalgaon group the early south-west rains were more plentiful, certain, and regular than in Kurkumb or Indapur; but the north-east October and November rains were slighter and less certain. As regards crops, in consequence of the difference of rainfall, the chief harvest of the Pimpalgaon group was the early or *kharif* millet or *bajri* and not as in Indapur the late or *rabi* Indian millet or *jvari*. Millet was a more costly crop to grow than Indian

millet. It wanted manure and weeding, did not flourish without rain, and gave a less outturn. On the other hand millet was the food of the richer classes, and in Yevat the chief mart of Pimpalgaon was generally twenty per cent dearer than Indian millet. [Bom. Gov, Sel, CLI. 241.] The details of millet prices are: [Bom. Gov. Sel. CLI. 241, 246, 247.]

Rupee Price of Bajri and Jvari in Shers, 1830-1839.

Towns.	<i>Bajri.</i>			<i>Jvari.</i>		
	1830-37.	March 1839.	Sept. 1839.	1830-37.	March 1839.	Sept. 1839.
Indapur	41	31	37 ⁵ / ₇	52	46 ¹ / ₃	68
Kurkumb	--	24 ¹ / ₃	30	--	36	48 ¹ / ₃
Yevat	29	22	28	38	31 ¹ / ₃	36 ³ / ₄
Poona	--	18 ² / ₅	25	--	24	29

Apart from the fact that its staple millet was a higher priced grain than Indian millet, its nearness to grain markets gave the Pimpalgaon group a considerable advantage over Indapur. During the seven years ending 1837 the average price of Indian millet at Yevat in Pimpalgaon was 27 per cent above the average price of Indian millet in Indapur. [Bom Gov. Sel. CL I. 242-243.] As regards soil the greater certainty of the rain joined perhaps to some property of the millet plant made the varieties of soil less marked than in Indapur. There was less difference in the outturn of bad and good soils in Pimpalgaon than in Indapur. In Pimpalgaon the best lands were waste and the worst lands were under tillage, partly because the good lands were harder to work but also from some fault in assessment. In fixing the amount by which the Pimpalgaon rates should differ from the Indapur rates no change was required under the heads of condition of the people or cost of tillage. The chief grounds of variation were the better rainfall in the Pimpalgaon group, the greater nearness of the Pimpalgaon group to better markets, and the less difference between the outturn of the different classes of soil in Pimpalgaon than in Indapur. These considerations led Lieutenant Nash to propose for the Pimpalgaon group rates which in the aggregate were thirty-two per cent higher than the rates introduced into Indapur. [The Pimpalgaon acre rates were: Black land, 14 as. 4 ⁴/₅ ps., 11 as. 7 ¹/₅ ps., and 8 as. 9 ³/₅ ps.; red land, 10 as., 7 as., and 5 as. 7 ¹/₅ ps.; brown land, 6 as. 4 ⁴/₅ ps., 4 as., and 2 as. 4 ⁴/₅ ps. The corresponding Indapur rates were: Black

land, 12 as., 9 as. $7\frac{1}{5}$., and 7 as. ; red land, 8 as., 5 as. $2\frac{2}{5}$ ps., and 3 as. $7\frac{1}{5}$ ps.; brown land, 4 as., 2 as. $4\frac{4}{5}$ ps., and 1 a. $4\frac{4}{5}$ ps. Bom. Gov. Sel. CLI. 151, 244.] In the Pimpalgaon group there were 123,000 acres. The proposed rates averaged $11\frac{3}{4}$ d. ($7\frac{5}{6}$ as.) the acre, and the new assessment was expected to vary from £5700 to £6300 (Rs. 57,000 - Rs. 63,000). The old assessment was £11,600 (Rs. 1,16,000) and the Government receipts for the two years before the revision of the survey were £3300 (Rs. 33,000)-and £2900 (Rs. 29,000). If the reduction of rates caused the same spread of tillage as in Indapur, an increase of 47,000 acres in tillage and of at least £1000 (Rs. 10,000) in collections was expected. [Bom. Gov. Sel. CLI. 245-246. In the Kurkumb group there were 98,764 acres. Their old assessment was £7055 (Rs. 70,550) and their new assessment £3700 (Rs. 37,000) representing an average acre rate of $9\frac{3}{4}$. ($6\frac{1}{2}$ as.). Indapur contained 220,000 acres; its old assessment was £20,300 (Rs. 2,03,000) and for many years the average revenue had been only £3200 (Rs. 32,000). The average acre rate imposed by Mr. Goldsmith was $8\frac{7}{8}$. ($5\frac{11}{12}$ as.); this reduced the assessment to £8400 (Rs. 84,000); while an extension of cultivation consequent *am* the reduction of assessment increased the revenue to about £5000 (Rs. 50,000), only about one-seventh of the land remaining out of cultivation. Bom. Gov. Sel. CLI. 245.] On the ground that the difference of produce prices between Indapur and Pimpalgaon was twenty-five per cent in favour of Pimpalgaon, Lieutenant Wingate raised Lieutenant Nash's proposed rates by between four and five per cent. [Bom. Gov. Sel. CLI. 249-261.] Lieutenant Wingate's acre rates were first black 1s. $10\frac{1}{2}$ d. (15 as.), second black 1s. 6d. (12 as.), and third black 1s. $1\frac{4}{5}$ ($9\text{as. } 2\frac{2}{5}$ ps.); first red 1s. $3\frac{3}{5}$ d. (10 as. $4\frac{4}{5}$ ps.), second red $10\frac{4}{5}$ d. ($7\text{as. } 25\frac{2}{5}$ ps.), and third red $8\frac{7}{10}$ d. (5as. $9\frac{3}{5}$ ps.); first brown $9\frac{9}{10}$ d. (6 as. $7\frac{1}{5}$ ps.), second brown 6d. (4 as.), and third brown $3\frac{3}{5}$ d. (2 as. $4\frac{4}{5}$ ps.). These rates were sanctioned by Government. [Government Letter 130 of 10th January 1840, Bom. Gov. Sel. CLI. 253.] In considering the effect of the new rates of assessment Lieutenant Nash anticipated that they would shortly cause an increase of not less than £1000 (Rs. 10,000) a year in the Government revenue, and Lieutenant Wingate thought that the gain to the people by the introduction of the new rates would be still greater. [lieutenant Wingate, 11th December 1839, Bom. Gov. Sel. CLL. 252.]

1840-41.

In 1840-41 of a revenue of about £80,000 (Rs. 8,00,000) about £10,000 (Rs. 1,00,000) were remitted. In the open country away from the Sahyadris the crops were generally bad. About £9200 (Rs. 92,000)

were remitted in the plain parts of Pabal, Purandhar, Junnar, and Haveli. In Indapur and Bhimthadi the revision of the assessment had lessened the necessity for remissions though the season was not more favourable than in the other eastern sub-divisions. [The details of remissions are: Maval 315 per cent and Khed 172, both unrevised western sub-divisions; Junnar 7.87 an unrevised sub-division partly western partly open, the season unfavourable in the open parts; Pabal 30.02 an unrevised sub-division in the open country, the season unfavourable; Haveli 8.58 and Purandhar 38.66, both unrevised sub-divisions partly near the hills partly open, the season unfavourable in the open parts; Bhimthadi 2.50 and Indapur 3.69 both revised sub-divisions in the open country, the season unfavourable as in the unrevised open parts. To illustrate the good results of the revised survey settlement still more strikingly, Mr. Vibart the Revenue Commissioner gives the percentage of remissions in the neighbouring sub-divisions of other districts; Korti 36.61 an unrevised sub-division of Ahmadnagar, and Karmala 43.71, an unrevised subdivision of Sholapur. They lay to the north and north-east of Bhimthadi and Indapur the revised sub-divisions of Poona. Bom. Gov. Rev. Rec. 1344 of 1842, 5.6.] At Indapur the rupee price of Indian millet or *jvari* fell from about 88 to 128 pounds (44-64 *shers*). In the whole district the tillage area increased from 895,438 to 947,840 acres, remissions fell from £10,640 to £9926 (Rs.1,06,400-Rs.99,260), and collections rose from £67,097 to £68,279 (Rs.6,70,970-Rs.6,82,790). Outstandings amounted to £1750 (Rs. 17,500). [Of the two revised sub-divisions in Indapur tillage showed an increase of 2194 cress and revenue of Rs. 655, and in Bhimthadi tillage of 21,347 acres and revenue of Rs. 8347. Bom. Gov. Rev. Rec. 17 of 1846, 63.66. Of the total Outstandings of Rs. 17,503, Rs.6262 were in Khed, Rs. 3918 in Indapur, Rs. 2427 in Purandhar, Rs. 2162 in Junnar, Rs. 1825 in Haveli, Rs. 667 in Pabal, Rs. 183 in Poona City and Rs. 59 in Bhimthadi. There were no outstanding in Maval.] In reviewing the year's report Government observed with satisfaction that the revenue was on the increase, the collections were made more punctually, and the outstanding balances were being settled. [Gov. Letter 1494 of 16th May 1842. Bom. Gov. Rev. Rec. 1344 of 1842, 281.]

In 1841 the assistant collector Mr. Hart, writing on the 9th of November spoke highly of the progress made in Indapur and Bhimthadi. Within the last few years population had increased, tillage had spread, the Government revenue had risen, and remissions fallen, and the social and pecuniary condition of the people had perceptibly improved. Mr. Hart considered that this change was in great measure due to the new settlement rates. [Bom. Gov. Rev. Rec. 1344 of

1842,54, 126. Bom. Gov. Sel. CLI. 202. In 1840-41 in Indapur the waste area was reduced to 5160 acres. Bom. Gov. Sel. CVII. 36. About Kurkumb in Bhimthadi the assistant collector Mr. Mansfield wrote about 1841: 'The increase in the land under cultivation in the Kurkumb division, amounting to 14,537 acres assessed at Rs. 5000, is a proof of the great relief afforded to the landholders by the revised rates of assessment; and it is worthy of remark that the whole of this land has been brought into cultivation by the holders on their own means, ungsisted by advances and under a clear understanding that no remission would be made on account of a failure of crops,' Bom. Gov. Sel, CLI. 202.] One circumstance which added to the prosperity of the people in 1841 was the abundant supply of cattle. This was probably partly at least due to the change from pack-bullocks to carts which must have set free a large number of bullocks. On the 23rd of December 1841 the Collector Mr. Stewart wrote: 'Bullocks are brought in large droves from the neighbouring states every year to these districts, and cattle markets are held weekly in many large towns. The supply is amply sufficient for the demand. Landholders are never forced to go any distance to buy cattle, nor is any inducement required to persuade the owners of bullocks to bring them for sale in these districts. [Mr. Stewart, Collector, 23rd Dec. 1841. Bom. Gov. Rev. Rec. 1344 of 1842, 50.] In 1840-41 Mr. Hart proposed that remission should be granted to any one who would plant the edges of his field with trees. Mr. Stewart the Collector said it was no use trying to tempt the people as they thought trees spoiled their crops and harboured birds. [Bom. Gov. Sel. CLL. 196.]

Advances, 1842.

A subject which at this time received much attention from revenue officers was the best means of helping landholders by the grant of advances. In 1842 (February 8th) the Revenue Commissioner Mr. Vibart wrote, ' The account of the Government agricultural advances or the *tagai* is on the whole satisfactory. Where the advance is made to effect permanent improvements such as sinking wells, the more that can be advanced the better, provided the improvement proposed is real and permanent and the character and means of the landholder hold out a fair prospect of the undertaking succeeding. Advances to buy bullocks might do good. Still in lightly assessed parts advances for bullocks were open to the objection of tempting landholders to bring more land under tillage than they could cultivate properly. He thought that in lightly assessed districts the grant of advances to buy cattle should be discouraged except after an epidemic of cattle disease or after a famine year.' [Bom. Gov. Rev. Rec, 1344 of 1842,15.17.] In a

letter dated the 16th of May 1842, Government approved of Mr. Vibart's proposals. They said ' In tracts or village groups where the assessment is ill-regulated and the landholders are poor and depressed, it is impossible to resist the call for advances to help in providing seed and stock. As a tract improves, the need, of advances for seed or for stock becomes less urgent. In such cases advances should be confined to landholders who are anxious to improve their land. Government considered that the sums of money which had been advanced to landholders to enable them to improve their carts was most judicious. Advances to improve irrigation were also always well spent. In the present state of the public resources it was impossible to sanction any considerable outlay, and endeavours must be confined to preventing the decay of works already in existence.' Considering his peculiar qualifications and intimate knowledge of the country, Government sanctioned the annual disbursement by Dr. Gibson the Superintendent of the botanical garden at Hivra of £300 (Rs. 3000) in advances to landholders desirous of undertaking works of irrigation. One form of advances which in the opinion of Government should be scrupulously restricted was the demand of advances with the object of forcing ordinary cultivation. [Gov. Letter 1494 of 16th May 1842, Bom. Gov. Rev. Rec. 1344 of 1842, 275-278.]

Carts, 1840.

In 1836 the great loss which the people suffered from the want of a market for their grain impressed on the district officers the necessity of introducing measures to cheapen the cost of carriage Roads were being made, and the new road (1830) down the Bar pass made it possible to send produce to the Konkan and Bombay in carts. There were very few carts in the district. Those which were in use were for carrying great weights for short distance and had solid stone wheels. A new style of cart was introduced by Lieutenant Gaisford in 1836, and a cart factory was started by him at Tembhurni in Sholapur. [Bom. Gov. Sel. CVII. 39,40, 41, 54, 55.] The people took great interest in the carts which were light weighing only 160 pounds, cheap costing about £4 (Rs. 40), and roomy enough to carry about three quarters of a ton. Many of the richer landholders bought carts. It was found that the bulk of the people were keen to buy but could not spare the money. Advances were made aggregating about £760 (Rs. 7600) and in the four years ending 1840 it was estimated that 3722 carts had been made and were in use. In his report for 1839-40 the Collector Mr. Stewart wrote (19th Nov. 1840): ' The improved description of carts is highly approved by all classes. The model has been generally adopted and several people make them for sale on speculation, in the city of

Poona.' To introduce cart-making into the leading country towns Mr. Stewart proposed that at each mamlatdar's station two workshops should be formed, which the children of the village carpenters and blacksmiths of the *pargana* should be allowed to attend to be taught cart-making. Where the means of learning their trade was thus within the reach of each carpenter and blacksmith of a village, Government might insist on a certain degree of skill to entitle him to the *inam* or perquisites attending his right to work for his village. As a further encouragement to the attainment of greater skill, a promise of employment under Government in the public works and ordnance might be held out to those who were considered fit for such situations. [Bom. Gov. Rev. Rec. 1241 of 1841, 20-21, 87-91.] Government did not favour Mr. Stewart's suggestions. In their opinion if cart-making paid, carmakers would soon spring up. [Bom. Gov. Rev. Rec. 1241 of 1841, 269-270.]

1841-42

The season 1841-42 was peculiarly unfavourable. The early rains fell in some sub-divisions so abundantly and incessantly as to destroy a large proportion of the early crops. The late harvest failed because the latter rains were too long of beginning. In some sub-divisions the standing crops were destroyed by locusts. The remissions amounted to 15.31 per cent. [Junnar 21.47, Indapur 10.96, Khed 14.72, Pabal 12.79, Purandhar 33.35, Bhimthadi 2.78, Haveli 7.77, Maval 7.21, and City of Poona 362. Bom. Gov, Rev. Rec. 1453 of 1843, 41-42.] At Indapur the rupee price of Indian millet or *jvari* rose from about 128 to 112 pounds (64-56 *shers*). The area under tillage [The details are:

Poona Tillage, 1838-1842.

SUB-DIVISION.	1838-39.	1839-40.	1840-41.	1841-42.
	Acres.	Acres.	Acres.	Acres.
Shivner	--	--	143,763	144,762
Indapur	212,407	218,308	224,695	227,564
Pabal	--	--	118,200	124,209
Purandhar	--	--	106,048	109,726
Bhimthadi	108,069	131,324	154,351	159,624
Haveli	--	--	60,467	80,142

Khed	--	--	105,312	102,436
Maval	--	--	32,758	31,858
Poona City	--	--	2246	2279
Total	--	895,438	947,840	982,600

Bom. Gov. Rev. Rec. 1344 of 1842, 32, and 1453 of 1843, 34,35,37. In 1842 there were 6148 acres of waste in Indapur and 43,705 in Bhimthadi. Rev. Rec. 1453 of 1843, 35. According to another statement there was in 1841-42 a decrease of 749 acres in tillage and of Rs. 226 in revenue in Indapur, and an increase of 5418 acres and Rs. 2368 in Bhimthadi. In Haveli and Pabal into which the survey settlement was introduced in 1841-42, there was an increase of 6382 acres in tillage and of Rs. 3438 in revenue in Haveli, and of 2068 acres and Rs. 1009 in Pabal. Bom. Gov. Rev. Rec. 17 of 1846, 63-66.]

in the whole district rose from 947,840 to 982,600 acres, and collections fell from £68,279 to £64,296 (Rs. 6,82,790-Rs. 6,42,960). [Of the decrease in revenue about £1800 (Rs. 18,000) were due to the introduction of survey rates into Pabal and Haveli. Bom. Gov. Rev. Rec. 1453 of 1843, 29.] Outstandings amounted to £2441 (Rs. 24,410). [The details are: Shivner Rs. 57, Indapur Rs. 3598, Khed Rs. 393, Pabal Rs. 3159, Purandhar Rs. 10,523, Bhimthadi Rs. 2934, Haveli Rs. 3237, Maval Rs. 2, and Poona City Rs. 505. Bom. Gov. Rev. Rec. 1453 of 1843, 125.] Since 1838 considerable progress had been made in clearing off the heavy balances which had for years been accumulating. The total of £69,016 (Rs. 6,90,160) in 1838 was reduced to £36,544 (Rs. 3,65,440) in 1841. [Mr. Vibart, Rev. Corm. 311 of 24th Feb. 1842.]

Indapur-Bhimthadi.

The low rates introduced into Indapur and Bhimthadi had led to a rapid spread of tillage. [The figures were, for Indapur 212,407 acres in 1838-39; 218,308 in 1839.-40; 224,695 in 1840-41; and 227,564 in 1841-42; and those for Bhimthadi 108,069 acres in 1838-39; 131,324 in 1839-40; 154,351 in 1840-41; and 159,624 in 1841-42. Bom. Gov. Rev. Rec. 1453 of 1843, 35. According to another statement there was in 1841-42 a decrease of 749 acres in tillage and of Rs. 226 in revenue in Indapur, and an increase of 5418 acres and Rs. 2368 in Bhimthadi. Bom. Gov. Rev. Rec. 17 of 1846, 63-66.] The tillage was superficial. As shown in the following statement the increase in the stock of cattle did not nearly keep up with the increase in the tillage area. The details

[Bom. Gov. Rev. Rec. 1344 of 1842, 135-136. The figures in this statement and in the statement in footnote 1 do not quite agree.] are:

Bhimthadi-Indapur Tillage and Working Cattle. 1840-1842.

SUB-DIVISION.	LAST YEAR OF MR. PRINGLE'S SURVEY.		1840-41.		1841-42.	1841.
	Tillage.	Oxen.	Tillage.	Oxen.	Acres taken.	Oxen.
<i>Bhimthadi.</i>	Acres.		Acres.		Acres.	
Mamlatdar's Division	49,576	9361	74,468	10,411	79,793	11,068
Mahalkari's do.	36,460	5349	78,127	7945	77,791	7864
<i>Indapur.</i>						
Mamlatdar's Division	76,375	4905	118,164	7675	116,551	8958
Mahalkari's do.	64,012	4068	105,006	5776	103,593	8726
Total	226,423	23,683	375,765	30,807	377,728	36,616

In spite of the badness of the season the opening of cart tracks and the making of carts had caused a marked increase in traffic. [Bom. Gov. Rev. Rec, 1453 of 1843, 16.] In 1841 the chief exports were field produce, chiefly *jvari*, *bajri*, *tur*, gram, wheat, oil, and miscellaneous articles. Coarse cottons cloth chiefly for local use was woven in Indapur, Jejuri, Talegaon Dabhade, and some other villages. Returns prepared at Khandala on the Bombay-Poona road and on the other main lines of traffic showed an increase in the estimated value of the traffic from £110,528 (Rs. 11,05,280) in 1840-41 to £131,758 (Rs. 13,17,580) in 1841-42 or an increase of £21,230 (Rs. 2,12,300). The value of the articles on which import or *thal-mod* that is local-emptying duties were levied in the city of Poona and in the town of Junnar, rose from £39,738 (Rs. 3,97,380) in 1840-41 to £41,623 (Rs. 4,16,230) in 1841-42, and the export or *thal-bharit* that is local-filling

goods were estimated to have fallen in value from £8880 (Rs. 88,800) to £6849 (Rs. 68,490). [Bom. Gov. Rev. Rec. 1453 of 1843,95-96.]

SURVEY.

Pabal, 1841-42.

In this year the thirty years' revenue survey settlement was introduced into the Pabal and Haveli sub-divisions. [Bom. Gov. Sel. CLI. 337.] Pabal was a narrow slip of land lying nearly north and south. It included a northern group with Ausari as its head-quarters which formed the mahalkari's charge and a southern group with Pabal as its head-quarters which formed the mamlatdar's charge. As all parts of the sub-division were about the same distance from the Sahyadris there was little variety of climate. In the north-west corner a few villages were hemmed in by considerable hills which caused a specially heavy rainfall while some villages on the eastern boundary received a scanty supply. The landholders though depressed were not so badly off as those of Indapur and Bhimthadi. The large proportion of hereditary or *miras* holders, 1850 out of 2442 in the Pabal group and 2719 out of 3262 in the Ausari group, showed that this sub-division had never suffered so severely as the east of the district. At the same time Pabal was depressed by over-assessment. Many of the villages were ruined and tillage had remained nearly stationary at 105,000 acres in the twelve years ending 1841 during which Mr. Pringle's settlement was nominally in force. [Bom. Gov. Sel. CLL. 339.] During those twelve years more than 50,000 acres or about a third of the Government arable land had lain waste. Of the total dry-crop or *kamal jirayat* assessment fixed in 1829 for the whole Government arable land at £15,500 (Rs. 1,55,000) an average of only £7200 (Rs. 72,000) or less than one-half was realized. During the first nine years (1820-1829) of British rule the average rental including *sayar* or miscellaneous revenue was £13,783 (Rs. 1,37,830), and the average collections were £12,518 (Rs. 1,25,180). In the next twelve years (1829-1841) when the rent settlement was nominally made according to the assessment fixed at the 1829 survey, the average revenue for collection was £10,769 (Rs. 1,07,690) and the collections £8785 (Rs. 87,850). The large average rental and collections during the first period (1820-1829) were due to the comparatively enormous revenue drawn from the land in the first few years of British rule. For the first three years (1820-23) the actual receipts on account of land revenue averaged upwards of £16,000 (Rs. 1,60,000) a year; in 1824 they fell to £10,800 (Rs. 1,08,000); and in every succeeding year they were less than in 1824. Lieutenant Wingate thought that in the early years the

capabilities of the Deccan had been overtaxed and that this drain of capital was in great measure the cause of the future poverty and distress. [Lieutenant Wingate, 7th September 1841, Bom. Gov. Sel. CLI. 337-339, 348.] Of the two survey groups into which Pabal was divided the Pabal or mamlatdar's group in the south contained 113,054 acres distributed among twenty-eight villages. Measuring and classing were begun in 1839 and finished in 1840. The measurements of the 1829 survey, generally proved correct and were kept by the 1839 survey. Except a few villages in the east where the rainfall was somewhat scanty, the climate of the Pabal group was uniform. The people, though poor in house gear clothing and farm stock, were some shades better off than the people in the east. There were 188 shops. Still many of the villages and village walls were ruined, and manufactures did not flourish. Of 2442 landholders, 1850 were hereditary holders, 492 were casual holders, and 100 were *ovandkaris* or *ovandekaris* [It means the holder and cultivator of land which lies without the tract subject to the village in which he lives.] that is strangers. There were 1225 ploughs, 7521 bullocks, and 430 carts. Since the introduction of the 1829 survey the tillage area had varied little, the average of the three years ending 1841 showing an increase over the three years ending 1832 of about 4000 acres. [The various land measures in use, the *pakka-bigha*, *kachcha-bigha*, *chahur*, *rukka*, and *khandi* made it impossible to tell the area under tillage in the years before 1829. Bom. Gov. Sel. CLI. 329.] This south or Pabal group did not come under British management until 1820. In that year the land revenue was £8332 (Rs. 83,320) and the other taxes yielded £418 (Rs.4180) or a total revenue of £8750 (Rs. 87,500). In 1828 the year before Mr. Pringle's survey, the land revenue was £4796 (Rs. 47,960) or nearly one-half what it was nine years before and the taxes £328 (Rs. 3280) or one-third less. The survey rates yielded a revenue of £5398 (Rs. 53,980) that is an increase of £600 (Rs.6000), but in the following year the rental sank to about its former level. Since 1835-36 it had been gradually diminishing at the rate of £100 (Rs.1000) a year and in 1838-39 was £5157 (Rs.51,570) or £3175 (Rs. 31,750) less than when the country came into the hands of the British, while the taxes were £190 or £230 (Rs. 1900 or Rs.2300) less. During the first nine years (1820-1829) remissions to the amount of £6764 (Rs.67,640) were given, and during the last ten years under the 1829 survey the sum of £7629 (Rs.76,290) was remitted, so that in the space of nineteen years the remissions amounted to the enormous sum of £14,393 (Rs. 1,43,930) that is nearly three years' rental. [Bom. Gov. Sel. CLI. 330. In the entire Pabal sub-division that is in both the Pabal and Ausari survey groups, taking land rent or *ain jama* and cesses or *sayar* together, the average yearly remissions during

1820-29 were Rs. 11,800 and outstandings Rs. 843, and during 1829-41 average remissions Rs. 17,141 and outstandings Rs. 2,699. Ditto, 338.] There was a large area of garden tillage. There were many water channels or *pats*, 739 wells of which 208 were out of repair, and 69 water-lifts or *budkis* of which 44 were out of repair. Lieutenant Robertson suggested that the rates sanctioned for the Pimpalgaon group of Bhimthadi which were thirty, three per cent higher than those of Indapur, [Bom. Gov. Sel. CLI. 310-311.] should be adopted for this Pabal group, as the two groups did not differ in climate, productiveness, nearness to Poona, or in means of sending produce to markets. The garden lands might he thought be assessed on the system adopted in Indapur.

The Ausari or northern group contained 74,662 acres distributed over thirty-four villages of which thirty-one were Government and three were *dumala* or reversionary. The measuring and classing were begun and finished in 1839-40. As the measurements of the 1829 survey proved incorrect in sixteen villages they were remeasured throughout. The error on the arable land of one village was found as high as 52 per cent, and in the other fifteen villages it varied from 17 to 30 per cent. The mistakes were almost entirely in favour of Government. In the remaining fifteen villages as the amount of error was within ten per cent the former measurement was retained. As it was nearer to the hills the Ausari group was better off for rain than the eastern Pabal villages. Consequently the difference in fertility between the better and the poorer soils was not so marked. The climate was much the same throughout, except in a few village's in the north-west which were surrounded by hills and in consequence had a specially large and certain supply of rain. The group was crossed by the Mina and the Ghod and nearly all of the villages were on the banks of these rivers. The soil of the tract drained by the Mina was poor, chiefly red or *tambdi* and stony or *bardi*, with few trees and much of it waste. The Ghod, from as far as Pimpalgaon, ran through better land, fairly wooded with mangoes and nearly all under tillage;. The chief dry grains were for the early harvest *bajri* and *jvari* and for the late or *rabi* harvest wheat, gram, and safflower or *kardai*. There were 806 wells and 64 water-lifts or *budkis* in good repair. The wells were chiefly used in growing vegetables wheat and gram, and in a few villages small patches of sugarcane plantain and mulberry trees. A dam across the Mina river at Narayangaon about ten miles south-east of Junnar, when in thorough repair, watered 362 acres of land. According to the 1829 survey the Ausari group contained 75,177 arable acres, of which in 1840, 55,970 acres were under tillage and 19,207 were waste; of 3262 landholders 2719 were hereditary holders, 426 casual holders,

and 117 strangers or *ovandkaris*. There were 1433 ploughs, 368 carts, and 9436 bullocks. [Capt. Landon, asst. sup, 25th August 1840, Bom. Gov. Sel. CLI. 333-334.] In fifteen villages there were good *chavdis* or village offices, in ten villages the village offices were sadly out of repair, and in seven villages they were in ruins. Besides serving as village offices, the *chavdis* were useful and convenient as a resting-place for native travellers. Ten villages had Marathi schools with a total attendance of 244 boys. At Narayangaon the master was paid by Government; in the other villages the pay of the master varied according to the number of boys and ranged from 6s. to 12s. (Rs. 3-6) a month, each boy paying 3d. to 6d. (2-4 *as*.) a month according to the progress he made. The boys were all very young as the parents did not like paying for them and soon took them away. The only manufactures were the weaving of coarse cotton cloth and of *kamblis* or blankets for local use. Several villages had a weekly market at which vegetables and small quantities of grain and coarse cloth were offered for sale. The amount of traffic was small. The surplus grain, tobacco, and other produce went either to Poona, Panvel, or Bhiwandi. Large droves of bullocks loaded with cotton from Amravati in Berar passed through Korti and Pabal on their way to Bombay. In 1820 when the Ausari villages came under British management the rental on the land under tillage was £8026 (Rs. 80,260). By 1828 it had fallen to £5653 (Rs. 56,530), and Mr. Pringle's survey in 1829 reduced it to £4662 (Rs. 46,620). Since 1829 the tillage area had varied little, but the amount of remissions and balances had been much larger since the 1829 survey than before. [Between 1820 and 1829 remissions and balances amounted to £4332 (Rs. 43,320) and between 1829 and 1839 they amounted to £9260 (Rs. 92,600). Bom. Gov. Sel. CLL 332.] At the time Ausari passed to the British (1820) the amount collected from the land was £8026 (Rs. 80,260) being the full assessment without any remission. The year before the survey (1828) it had fallen to £4487 (Rs. 44,870) and on the introduction of the survey in 1829 it fell to £3254 (Rs. 32,540); in 1831 it fell to £2553 (Rs. 25,530); the following year it was more favourable, and in 1833 and the two following years nearly the whole assessment was collected; in 1836 it again fell to £3527 (Rs. 35,270), and since then it fluctuated between £3500 and £4000 (Rs. 35,000 and Rs. 40,000) which is less than half the amount collected when the British first took possession of the petty division in 1820. [Bom. Gov. Sel. CLI. 332]

Of the entire Pabal sub-division in a group of fifty-six villages the changes in revenue between 1836 and 1841, that is during the five years before the thirty years survey settlement, are as follows: [Bom. Gov. Sel. CLI. 309.]

Pabal Revenue, 1836-1841

YEAR.	Villages.	Total Rental.	Unoccupied.	Occupied.	Remissions.	Collections.
		Rs.	Rs.	Rs.	Rs.	Rs.
1836-87	56	1,33,878	46,318	87,560	18,764	68,796
1837-38	66	1,30,901	44,480	86,421	15,591	70,830
1838-39	56	1,31,069	45,162	85,907	26,443	59,464
1839-40	56	1,32,791	43,234	89,557	16,980	72,577
1840-41	56	1,30,101	33,185	96,916	36,043	60,873

The survey rates proposed by the assistant superintendent Captain Landon [Captain Landon thought that the Pabal sub-division could easily bear an increase of 35 per cent on the rates fixed for Sholapur that is 68.3 per cent higher than those of Indapur, and 10 per cent additional on the inferior soils on account of their greater fertility. He also suggested that a few villages on the north-west might bear an additional 20 per cent on account of a more certain supply of rain, and a few on the eastern border be lowered 20 per cent on account of less certain rainfall. Bom. Gov. Sel. CLI. 311.] gave for the whole sub-division an acre average of 1s. 1½d. (9 as.) and a maximum dry-crop assessment on the arable land, of 4 Captain Landon thought that the Pabal sub-division could easily bear an increase of 35 per cent on the rates fixed for Sholapur that is 68.3 per cent higher than those of Indapur, and 10 per cent additional on the inferior soils on account of their greater fertility. He also suggested that a few villages on the north-west might bear an additional 20 per cent on account of a more certain supply of rain, and a few on the eastern border be lowered 20 per cent on account of less certain rainfall. Bom. Gov. Sel. CLI. 311. £9281 (Rs. 92,810). This in addition to the garden or *bagayat* rental of £1550 (Rs. 15,500) gave a total survey rental of £10,831 (Rs. 1,08,310). Compared with the average collections of *the* previous ten years this total rental showed an increase of £2631 (Rs. 26,310). The immediate sacrifice on the part of Government was estimated at £52 (Rs. 520). For garden land, of which a considerable area was watered

from channels, the assistant superintendent recommended an acre rate of 6s. (Rs.3). There was also a small area of the rich alluvial soil called *dheli*. Some of this land which had been put to auction in the previous year was rented at 16s. (Rs. 8) the acre. As the area of this alluvial land depended on the river, the assistant superintendent recommended that the existing system of disposing of it by yearly sale should be continued. As the garden land at Narayangaon was watered from a dam across the Mina river which cost Government a large sum to keep in repair, [Rebuilding about one-third of the dam cost about Rs. 37,000. Captain Landon, 25th August 1840, Bom. Gov. Sel. CLI. 335. In 1838 the Revenue Commissioner reduced the rates from Rs. 17, Rs. 12½, Rs. 6, and Rs.3 to Rs. 14, Rs. 9, Rs. 4 and Rs.3. Bom. Gov Sel. CLI. 336.] and, as the rates had been revised by the Revenue Commissioner in 1838, the assistant superintendent advised that the present rates should be continued with an acre reduction of 2s. (Re. 1) in the first class and 1s. (8 as.) in the other classes. The rates he proposed were £1 6s., 17s., 7s., and 5s. (Rs. 13, Rs. 8 ½, Rs. 3½, and Rs. 2½). Lieutenant Wingate thought the proposed dry-crop rates too high. If the whole arable area was brought under tillage they would cause an increase of 38 per cent. To place the two Pabal groups on the same favourable position as the Indapur and Bhimthadi groups he would reduce the proposed rates by ten per cent. The watered lands amounted to about 6000 acres of which 3900 were watered from wells, 950 from channels, and 1150 from wells and channels. Well-watered or *motasthal* lands were not subjected to any extra taxation before the 1840 survey. Lieutenant Wingate recommended that well-watered land should be assessed on the plan adopted for the eastern sub-divisions. For channel watered land an acre rate of 6s. (Rs.3) to 2s. (Re.1) in excess of highest dry-crop rate was proposed. Land watered from both channels and wells was to be assessed by a combination of the two rates. The settlement as modified by Lieutenant Wingate would, when the whole arable land was brought under tillage, represent an increase of £2000 (Rs. 20,000) or twenty-six per cent on the average collections of £7700 (Rs. 77,000) during the twelve; years ending 1841. [According to Lt. Wingate's rates the dry-crop rental amounted to £8350 (Rs. 83,500) and the garden rental to £1350 (Rs. 13,500) or a total of £9700 (Rs. 97,000). Bom. Gov. Sol. CLI. 342.] Lieutenant Wingate's rates were approved and sanctioned. [Gov. Letter 3679 of 3rd Dec. 1841. Bom. Gov. Sel. CLI. 348-349. At the survey settlement a *miras patti* or hereditary holders' cess yielding about £30 (Rs. 300) levied every third year from a few villages was abolished. Another cess of the same name and yielding nearly £200 (Rs. 2000) had been levied every third year from the members of the village staff or *balutedars*. This was changed into a

yearly cess of one-third of the former amount. Bom. Gov. Sel. CLI. 341.]

Haveli 1841-42.

The survey settlement was introduced into the Haveli subdivision in 1841. [Bom. Gov. Sel. CLI. 428.] As Haveli lay to the west of Bhimthadi it enjoyed a larger share of the south-west rains. *Bajri* was the staple grain and varied in good soils with early *jvari* and with late wheat and gram. Near the hills a few patches of rice were grown. Near Poona the grazing land was very valuable. In one village upwards of 100 fields were kept in grass. In the villages round Poona, except in the lands of the rich where it was used as manure, the cowdung was stored and carried as fuel to the city. In the city there was a constant demand for grass, vegetables, and fruit, and the average price of grain was twenty to twenty-five per cent higher than in Bhimthadi. According to the 1829 survey, exclusive of *inams* the Haveli subdivision contained 96,383 acres of arable land assessed by Mr. Pringle at £111,920 (Rs. 1,19,200). The following statement shows the rental and collections for the twenty-two years ending 1840: [Bom, Gov. Sel. CLI. 429.]

Haveli Revenue, 1818-1840.

YEAR.	Rental.		<i>Stiyar.</i>	Total.	Remissions.	Balances.	Collections.
	Land.	Cesses.					
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1818-1840	79,042	27,765	7681	1,14,488	19,034	4271	91,183
1818-1830	80,634	33,672	8379	1,22,682	21,444	2784	98,454
1830-1840	77,136	20,676	6842	1,04,654	16,139	5478	83,037

In a group of eighty-one villages the collections during the five years ending 1840-41 averaged £6445 (Rs. 64,450). [Bom. Gov. Sel. CLI. 409.] The details are:

Haveli Revenue, 1836-1841.

YEAR.	Villages.	Total Rental.	Unoccupied Land.	Occupied land.	Remissions.	Collections.
		Rs.	Rs.	Rs.	Rs.	Rs.
1836-37	81	1,35,066	44,948	90,118	19,089	71,029
1837-38	81	1,26,993	38,017	88,976	26,567	62,409
1838-39	81	1,25,563	36,060	89,503	35,097	54,406
1839-40	81	1,26,447	35,904	90,543	27,677	62,866
1840-41	81	1,26,102	36,268	89,834	18,281	71,553

Of 119,720 acres assessed at £15,255 (Rs. 1,52,550), 23,337 acres were alienated. Had the whole of the remaining 96,383 acres assessed at £11,920. (Rs. 1,19,200) been cultivated during the previous twenty-two. years, the land assessment alone for that period would have amounted to £262,240 (Rs. 26,22,400). The sum of £2000 (Rs. 20,000) a year or £44,000 (Rs. 4,40,000) for the whole period under cess revenue, raises the total to £306,240 (Rs. 30,62,400). Of these £300,000 (Rs. 30 *lakhs*), only about £200,000 (Rs. 20 *lakhs*) were realized between 1818 and 1840. Of the remaining £100,000 (Rs. 10 *lakhs*) Lieutenant Wingate assigned £48,500 (Rs. 4,85,000) to loss on account of remissions, £9300 (Rs. 93,000) to outstanding balances, and the rest to the want of tillage. On comparing the twelve years before and the ten years after the 1830 survey it appears that remissions and balances slightly increased and the revenue considerably diminished. In the first twelve years the average *jamabandi* was £12,500 (Rs. 1,25,000); in the last ten years it was only £10, 776 (Rs. 1,07,760). The collections had fallen considerably. In the first twelve years the Government receipts. averaged £7400 (Rs. 74,000) a year; in the last ten they averaged only £5800 (Rs.58,000) [Bom. Gov. Sel. CLI. 435-436. These averages differ from those given in the statement on page 431.] According to Lieutenant Nash the improvement since 1883 was due to the grant of rising leases or *istava kauls*. In spite of these concessions, in 1841 Haveli was suffering from a high nominal assessment with constant remissions and balances. In fifty villages visited by Lieutenant Nash

(1841) he found a want of energy and enterprise and slovenly cultivation; still there were no large tracts of waste black soil nor any ruinous villages. In fact almost all the good soil was under tillage. Close to Poona, land was eagerly sought for, and the villages had a greater air of comfort than elsewhere. Haveli had never suffered so severely from war or famine as the eastern tracts. The country had never been emptied of its people. There were more hereditary holders; the people were more attached to their villages, less ready to change their homes, and more fitted to cope with loss. [Bom. Gov. Sel. CLI. 436-437.]

The acre rates proposed by Lieutenant Nash were in black land 2s. 9d., 2s. 3d, 1s. 9d, and 1s. 3d (Rs. $1\frac{3}{8}$, Rs. $1\frac{1}{8}$ 14 as., and 10 as.); in red land 2s. 4½d, 1s. 10½d, 1s. 4½d, and 10½d. (Rs. $1\frac{3}{16}$, 15 as., 11 as., and 7 as.); and in brown or *barad laad* 1s. $2\frac{2}{5}d$, $8\frac{2}{5}d$ and $3\frac{3}{5}d$ (9 as. $7\frac{1}{5}ps.$, 5 as. $7\frac{1}{5}ps.$, and 2 as. $4\frac{4}{5}ps.$). [The details are:

Poona Survey Acre Rates, 1837 -1841.

CLASS.	Indapur	Bhimthadi.		Haveli.	CLASS.	Indapur	Bhimthadi.		Haveli.
		Kurkumb.	Pimpalgaon.				Kurkumb.	Pimpalgaon.	
<i>Black.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Red— contd.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>
I.	300	330	375	550	III.	90	100	130	275
II.	240	265	300	450	IV.	--	--	--	175
III.	170	185	233	350	<i>Brown.</i>				
IV.	--	--	--	250					
<i>Red.</i>	--	--	--	--	I.	130	100	165	240
					II.	60	65	100	140
I.	200	220	260	475	III.	35	40	60	60
II.	130	145	180	375	IV.	--	--	--	--

Bom, Gov. Sel. CLI. 440. One rupee or two shillings are equal to 400 *ret.* Gov. Letter 3682 of 3rd December 1841, Bom. Gov. Sel. CLI. 449-451.]

These rates were calculated to give; an average acre rate of 1s. 6d. (12 *as.*) against the Bhimthadi average of 1s. (8 *as.*). An extra assessment not exceeding 6s. (Rs. 3) the acre was proposed for the small area of rice land. On garden lands in addition to the highest dry-crop rate, acre rates varying from 2s. (Re. 1) to 6s. (Rs. 3) were proposed. These proposals were sanctioned by Government in December 1841.

1842-43,

Except in Purandhar where the rainfall was short and the crops were injured by insects and caterpillars, the season of 1842 was on the whole very favourable. Remissions fell from 15.27 per cent to 33.4 per cent. Of £2694 (Rs. 26,940) the whole amount remitted, £1426 (Rs. 14,260) were granted in Purandhar. At Indapur the rupee price of Indian millet or *jvari* fell from about 112 to 136 pounds (56-68 *shers*). Over the whole district the tillage area rose from 982,600 to 1,000,881 acres and the collections from £64,296 to £76,958 (Rs. 6,42,960 - Rs. 7,69,580); £964 (Rs. 9640) were left outstanding. [Bom. Gov. Rev. Rec. 1453 of 1843, 34, 37, 124-125, and Rec. 1568 of 1844, 56-57, 76, 168-169. The details are:

Poona Tillage and Revenue, 1841-1843.

SUB-DIVISION.	1841-42.					1842-43.				
	Villages.	Tillage.	Remissions.	Out-Standings.	Collections.	Villages.	Tillage.	Remissions.	Out-standings.	Collect-ions.
		Acres.	Rs.	Rs.	Rs.		Acres.	Rs.	Rs.	Rs.
Shivner	176	144,762	34,188	57	1,28,192	176	150,398	4566	475	162,543
Indapur	77½	227,564	8739	3598	67,374	80	228,551	--	60	81,112
Khed	182	102,436	15,332	393	88,452	182	99,288	2300	205	1,02,487
Pabal	56	124,209	12,917	3159	85,692	56	134,977	3379	4361	91,803
Purandhar	69½	109,726	35,916	10,523	61,254	69½	111,704	14,260	1074	99,069
Bhimthadi	69	159,624	2170	2934	72,877	69	152,824	--	718	81,903
Haveli	82	80,142	6534	3237	74,285	83	88,173	1767	2555	80,811

Maval	175	31,858	4219	2	55,870	175	32,746	465	155	60,344
Poona City	2	2279	299	505	7435	2	2220	200	32	7818
Sheep-grazing	--	--	--	--	1530	--	--	--	--	1690
Total	889	982,600	1,20,314	24,408	6,42,961	892½	1,000,881	26,937	9635	7,69,580

According to another statement, in 1842-43 of the four revised subdivisions Indapur showed a decrease in tillage of 6601 acres and in revenue of Rs. 2599; Bhimthadi showed a decrease in tillage of 6619 acres and in revenue of Rs. 3380; Pabal showed a decrease in tillage of 8506 acres and in revenue of Rs. 1216; Haveli showed an increase in tillage of 3193 acres and in revenue of Rs. 1214. Bom. Gov. Rev. Rec. 17 of 1846, 63-66.]

The prosperous character of the season of 1842-43 was shown by a marked increase in the town duties of the city of Poona and Junnar, the amounts being £6051 (Rs. 60,510) in 1841-42 and £6699 (Rs. 66,990) in 1842-43. [Bom. Gov. Rev. Rec. 1568 of 1844, 100.] Compared with 1841-42 the returns for 1842-43 showed an increase in the estimated number apparently of bullock-loads that passed through the district from 376,171 to 619,257. [The details are:

Poona Transit Trade, 1841-1843.

DIVISION.	1841-42.	1842-43.	Increase.	DIVISION.	1841-42.	1842-43.	Increase.
	<i>Ras.</i>	<i>Ras.</i>	<i>Ras.</i>		<i>Ras.</i>	<i>Ras.</i>	<i>Ras.</i>
Shivner	31,439	33,935	2496	Indapur	28,965	28,213	752
Pabal	40,982	62,201	21,219	Poona City.	37,559	36,876	683
Purandhar	51,374	94,330	42,956	Total			
Bhimthadi	185,852	363,702	177,850		376,171	619,257	243,086

Bom. Gov. Rev. Rec. 1568 of 1844, 113-114.

Ras means head of cattle, total. It is not clear from the original reports what these figures represent. The Collector of Poona (4767 of 19th June 1884) thinks they denote the number of bullock-loads.]

The returns also showed an increase in exports from 42,433 to 64,599 bullock-loads and in imports from 392,603 to 429,801. [The details are:

Poona Exports and Imports, 1841-1843.

SUB-DIVISION.	EXPORTS.			IMPORTS.		
	1841-42.	1842-43.	Increase.	1841-42.	1842-43.	Increase
	<i>Ras.</i>	<i>Ras.</i>	<i>Ras.</i>	<i>Ras.</i>	<i>Ras.</i>	<i>Ras.</i>
Shivner	20,613	21,526	913	15,587	23,837	8250
Indapur	8683	25,460	16,777	16,890	16,881	—9
Pabal	2289	2985	696	4269	5890	1621
Bhimthadi	3310	5928	2618	4312	4763	451
Poona City	7538	8700	1162	338,178	364,669	26,491
Purandhar	--	--	—426	13,367	13,261	—106
Total	42,433	64,599	21,740	392,603	429,301	36,698

Bom. Gov. Rev. Rec. 1568 of 1844, 112-113. See note 3 on page 433.]

The Maval imports showed an increase of 1847 bullock-loads and the exports a decrease of 621, and the transit trade a decrease of 2200 bullock-loads. This carrying trade was from and to the coast through the Nane Maval by the Bor pass. The exports were cotton, grain, vegetable oils, native cloth, tobacco betel leaves, hides, and potatoes; the imports comprised salt, European cloths, and groceries. [Bom. Gov. Rev. Rec. 1568 of 1844, 134-135.] The decrease in the transit trade was due to the opening of the Kusur pass where the traffic had risen by 26,826 bullock-loads. In Khed imports showed an increase of 2920 bullock-loads, exports a fall of 523, and the transit trade a fall of 135,121 bullock-loads. The decrease in the transit trade was chiefly on the Indrayani and Navlakh-Umbra roads. The made road that passed through the Khed sub-division showed an increase of 1843 bullock-loads. [Bom. Gov. Rev. Rec. 1568 of 1844, 111, 112, 135.] In 1843 in Maval and Khed where roads had been made, a good type of cart was fast taking the place of pack bullocks. [Mr. Inveracity, first assistant

collector, 12th October 1843, Bom. Gov. Rev. Rec. 1568 of 1844, 114, 136.] In December 1843 Mr. Stewart the Collector dwelt on the great advantage to trade which would result from carrying on the Bombay-Poona made road to Sholapur. Local inquiry had satisfied him that the outlay would be met from tolls. [Mr. Stewart, Collector, 1881 of 28th December 1843, Bom. Gov. Rev. Rec. 1568 of 1844, 115; Mr. Inverarity, October 1843, Ditto 134-135.]

In 1839 an inquiry was begun into the outstanding balances some of which had remained without examination since 1819. The inquiry lasted till 1843 when it was almost completed and large sums were realized. In December 1843 the Collector Mr. Stewart described the district as prosperous. Large amounts of Outstandings had been recovered, the Government revenue was punctually paid tillage was spreading, the people were gradually becoming more prosperous, and improvements were keeping pace with the increase of capital expended either by Government or private individuals [Mr, Stewart, Collector, 28th Dec. 1843, Rev. Rec. 1568 of 1844, 119-120.]

Advances were continued in this year chiefly with the object of building or repairing village offices and of improving the water supply. [The details were: 26 wells made, 18 wells repaired, 4 water-lifts made, and one cistern made; 23 village offices built and 12 repaired. Besides these the people had at their own expense sank seventeen wells, and repaired three, and made three water-lifts. Mr. Stewart, Collector, 28th Dec. 1843, Bom. Gov. Rev, Rec 1568 of 1844, 74-75.]

Indapur,

1845.

To any one who knew the place a few years before, in 1843 the increased population and improved market of Indapur were notable, and the number and increased comfort of the villagers were equally striking. Most of the people considered the change the result of the 1836 survey. [Mr. Price, assistant survey superintendent, Karmala Survey Report, 18th July 1843, Bom. Gov. Sel. CL. 465.]

1843-44.

In 1843-44 the rainfall was sufficient. It was untimely in the west where the early crops on low-lying land suffered greatly, and the late harvest was injured by a failure of the latter November rain; £4292 (Rs. 42,920) or 5.42 per cent were remitted. [The details were: Shivner 13.77 per cent, Indapur 0.21, Khed 5.13, Pabal 0.51,

Purandhar (Sasvad division) 22.12 and (Supa division) 120, Bhimthadi 0.06, Haveli revised villages 0.0013 and unrevised villages 5.62, Maval 1.01, and Poona City 2.13. Bom. Gov. Rev. Rec. 17 of 18.48, 50.52.] At Indapur the rupee price of Indian millet or *jvari* fell from about 136 to 144 pounds (68-72 *shers*). Over the whole district the tillage area rose from 1,000,881 to 1,055,282 acres and the collections fell from £76,958 (Rs. 7,69,580) to £74,442 (Rs. 7,44,420); £450 (Rs. 4500) were left outstanding. [Bom. Gov. Rev. Rec. 1568 of 1844, 56,57, 76,168-169, and Rec. 17 of 1846,116-118,180-181. The details are:

Poona Tillage and Revenue, 1842-1844.

SUB-DIVISION.	1842-43.					1843-44.				
	Villages	Tillage.	Remissions.	Outstandings.	Collections.	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
--	--	Acres.	Rs.	Rs.	Rs.	--	Acres.	Rs.	Rs.	Rs.
Shivner	176	150,398	4566	475	162,543	176	150,326	23,089	235	1,44,311
Indapur	80	228,551	--	60	81,112	80	222,516	161	277	78,711
Khed	182	99,288	2300	205	102,487	184	104,063	5371	194	99,068
Pabal	56	134,977	3379	4361	91,803	57	147,984	511	559	98,915
Purandhar	69½	111,704	14,260	1074	99,069	69½	147,983	12,012	885	86,763
Bhimthadi	69	152,824	--	718	81,903	69	150,366	48	177	81,753
Haveli	83	88,173	1767	2555	80,811	83	97,116	930	2047	85,289
Maval	175	32,746	465	155	60,344	180	32,709	620	--	60,365
Poona City	2	2220	200	32	7818	2	2220	175	38	7966
Grazing	--	--	--	--	1690	--	--	--	86	1331
Total	892½	1,000,881	26,937	9635	7,69,580	900½	1,055,282	42,917	4498	7,44,422

According to another statement, in 1843-44, of the four revised subdivisions Indapur showed a decrease of 5468 acres in tillage and of Rs. 2317 in revenue; Bhimthadi showed a decrease of 2458 acres in tillage and of Rs. 1419 in revenue; Haveli showed an increase of 3098 acres in tillage and of Rs. 1402 in revenue; Pabal showed an increase of

5731 acres in tillage and a decrease of Rs. 280 in revenue. Bom, Gov. Rev, Rec, 17 of 1846,63-66,]

In 1843-44 there was a further increase in the transit trade. There were no local manufactures fit for export. The common grains were the chief exports to the coast; the chief return traffic was in European goods and salt. Mr. Inverarity the Collector, writing on the 31st of December 1844, repeated Mr. Stewart's views on the advantage of opening a made road between Poona and Sholapur. Along this line came all the exports from the east and south-east. The trade was hampered by the Bapdev pass which was impracticable for heavy ordnance or for laden carts. How highly the people valued carts was shown by the fact that with the help of Government and by the aid of local contribution the people of the market town of Ghode in Khed had made roads with side-drains through their town where before no cart could pass. [Mr. Inverarity, 31st Dec. 1844. Bom. Gov. Rev. Rec. 17 of 1846, 107 -110.] Of late years the north of the district had greatly benefited by the introduction of potato growing. In 1844 a large part of the Bombay market was supplied from Junnar. The culture of the Mauritius sugarcane had also increased from 388 to 547½ acres. [Mr. Inverarity, 31st Dec. 1844, Bom. Gov. Rev. Rec. 17 of 1846,72.] In spite of the spread of tillage in Indapur and Bhimthadi the people were still poor. About one-third of the wells had been allowed to fall into disrepair. [Mr. Inverarity, Bom. Gov. Rev. Rec. 17 of 1846,79-80.] Though 1842-43 and 1843-44 were favourable years and the advance under the generally improved conditions continued in other parts of the district, there was a decline in Indapur and Bhimthadi. This was believed to be due to the fact that the low rates of Mr. Goldsmid's settlement had unduly stimulated tillage and that the increased supply had affected prices and the lands ceased to pay the cost of tillage. [Mr. Inverarity, Bom. Gov. Rev. Rec. 17 of 1846, 63-64.] On the 31st of December 1844 Mr. Inverarity noticed that the decline in the tillage area in Indapur and Bhimthadi was necessary. He thought it was due to the fall in the price of grain in those sub-divisions. Tillage might be expected to go on decreasing until the more needy landholders sank to be labourers and the eventual contraction of produce enabled the substantial farmer to command better prices. [Bom. Gov. Rev. Rec. 17 of 1846, 65.] In Supa also there was a decline. The survey measurement had made a nominal addition to the extent of lands under cultivation in the Supa group of villages. In reality there had been a decrease to the extent of 5619 acres assessed at £370 (Rs. 3700), [68 were brought under the Acres 10,387 were thrown out of cultivation and 47 plough; the net decrease was 5619 acres. Bom. Gov. Rev. Rec. 17 of 1846, 66.] The decline which had taken place in

Indapur and Bhimthadi did not extend to Haveli and Pabal. The reason was that Poona was a certain market and that there were more means of raising watered crops. [Bom. Gov. Rev. Rec. 17 of 1846, 66 - 67.] Under Act XIX of 1844 all taxes on trades and occupations were repealed. [Bom. Gov. Rev. Rec. 23 of 1849, 167.] Of this sweeping and ill-considered measure the Collector Mr. Courtney complained with justice that it pressed hardly on the rural people. The people of towns were now relieved from almost all taxation and ceased to contribute their share to the revenues of the state. [Mr. Courtney, Collector, 21st Dec 1847, Bom. Gov. Rev. Rec. 23 of 1849, 167.]

SURVEY.

Supa, 1843-44.

In 1843-44 the thirty years' revenue survey settlement was introduced into the Supa petty division of Purandhar. [Bom. Gov. Sel. CLI. 521-545.] Of the 39½ Supa villages twenty-five were remeasured, twelve were tested, and the rest which had lately lapsed to Government were measured for the first time. Supa was bounded on the north by Bhimthadi, on the east by Indapur, on the south by the Nira river, and on the west by the Sasvad division of Purandhar. The country along the Karha and Nira was flat and seamed with stream beds. The northern and two or three of the western and central villages were hilly. In common with Indapur and still more with the Kurkumb group in east Bhimthadi, Supa suffered from uncertain rain. [According to a local tradition the want of rain in the country between Jejuri and Baramati was due to a curse. Lieut E. Evans, assistant superintendent of survey, 33 of 8th July 1843, Bom. Gov. Sel. CLI. 530.] The only road for loaded carts from Supa to Poona was by Khed. The chief markets were Sasvad, Wai, Bhor, and Satara. The *jvari* was inferior to that grown towards Madha and did not meet with a ready sale at Satara, but was sold at a profit at Way, Bhor, and Sasvad from which it went to Mahad in the Konkan. *Bajri* found a ready market. There were few carts in Supa except carts with solid stone wheels. The first survey settlement introduced in this group was by Mr. Pringle in 1829-30. About 1835, when these villages were in a state of depression, Captain Shortrede reduced Mr. Pringle's rental from £12,270 to £8898 (Rs. 1,22,700-Rs. 88,980) or 27.5 per cent. But owing to the defective manner in which the revision was effected, the levy of Captain Shortrede's modified assessment was found to be impracticable and concessions had to be made under the form of short rates or *ukti* and of leases or *kauls*. [Bom. Gov. Sel. CLI. 513, 524-525.] The following statement [Bom. Gov. Sel. CLI. 540-541. From this statement it

appears that during the six years. (1829 -1835) of Mr. Pringle's settlement the average collections amounted to Rs.29,230, and during the seven years of Lieut, Shortrede's settlement (1835-1842) they amounted to Rs. 28,269.] shows the remissions and land revenue collections in the Supa group of villages during the twenty-three years ending 1841-42:

Supa Revenue, 1819-1842.

YEAR.	Remis- sion.	Collect- ions.	YEAR.	Remis- sions.	Collections.	YEAR.	Remis- sions.	Collections.
	Rs.	Rs.		Rs.	Rs.		Rs.	Rs.
1819- 20	--	43,519	1828- 29	--	27,223	1837- 38	1969	33,428
1820- 21	--	47,352	1829- 30	--	47,547	1838- 39	8245	30,292
1821- 22	30	52,186	1830- 31	28,323	5680	1839- 40	7868	37,385
1822- 23	--	56,338	1831- 32	11,494	29,054	1840- 41	29,292	22,982
1823- 24	554	7826	1832- 33	32,867	6348	1841- 42	22,884	25,038
1824- 25	158	7478	1833- 34	--	47,734			
1825- 26	--	27,348	1834- 35	--	39,017	1835- 42	10,632	28,269
1826- 27	--	28,399	1835- 36	8	20,163			
1827- 28	--	10,351	1836- 37	4159	28,592			

During this period at Supa the rupee price of millet fell from about 38 to 128 pounds (19-64 *shers*) for *jvari* and from about 86 to 80 pounds (18-40 *shers*) for *bajri*. [Bom. Gov. Sel. CLL. 539. The details are:

Indapur - Patas- Supa Grain Rupee Prices, 1818 - 1843.

YEAR.	INDAPUR.		PATAS.		SUPA.	
	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>
	<i>Shers.</i>	<i>Shers.</i>	<i>Shers.</i>	<i>Shers.</i>	<i>Shers.</i>	<i>Shers.</i>
1818-19	11	6½	17	12	19	18
1819-20	15	17	18½	22	19	11
1820-21	31	27	22	26	22	20
1821-22	50	38	52	64	44	20
1822-23	60	28	112	28	76	46
1823-24	27	29	26	12½	24	40
1824-25	13½	15½	12	17	14	12
1825-26	35	20½	33	36	37	16
1826-27	52	52	46	33	46	35
1827-28	52	42	29	34	27	32
1828-29	60	53	66	44	56	31
1829-30	44	32	40	38	32	38½
1830-31	40	39	40	33	38	46½
1831-32	60	36	52	32	42	35
1832-33	20	34	22	24	35	31
1833-34	40	22	44	52	40½	20
1834-35	60	28	50	40	46	31½
1835-36	36	32	34	34	37	46
1836-37	50	32	44	44	50	35
1837-38	64	42	56	32	50	31
1838-39	38	40	34	34	32	44
1839-40	56	36	48	38	44	31
1840-41	52	32	48	38	46	34
1841-42	60	46	56	36	46	35
1842-43	80	48	64	46	64	40

Total	1096½	827½	1065½	849½	986½	779½
Add	137 ¹ /16	103 ³ /8	49 ¹⁵ /16	39 ¹³ /16	92 ¹⁵ /32	76 ¹ /26
Poona Shers	1234	931	1115	889	1079	856
Yearly average	49	87	45	36	48	34

]

Under the new survey for the Supa group the Kurkumb dry-crop rates which were ten per cent higher than those introduced into Indapur were proposed. The total new dry-crop-rental amounted to £5820 (Rs. 58,200) of which the land (111,768 acres) under cultivation yielded £4700 (Rs. 47,000) or an increase of 84 per cent. For garden lands the sum of 4s. (Rs. 2) the acre in excess of dry-crop rates was fixed. The new rental of garden lands amounted to £800 (Rs. 3000). [Bom. Gov. Sel. CLI. 513, 521-545.]

1844-45

In 1844-45 near the Sahyadris the rainfall was enough for the early crops, in the east the late crops generally failed, and scarcity of fodder caused such distress that most of the labouring cattle had to leave the district. At Indapur the rupee price of Indian millet *or jvari* rose from about 144 to 120 pounds (72-60 *shers*). The tillage area in the whole district rose from 1,055,282 to 1,063,127 acres and the collections fell from £74,442 to £66,489 (Rs. 7,44,420 to Rs. 6,64,890); £8125 (Rs. 81,250) were remitted and £3126 (Rs. 31,260) left outstanding. [Bom. Gov. Rev. Rec. 17 of 1847, 77, 82, 122,150. The details are:

Poona Tillage and Revenue, 1843-1845.

SUB-DIVISION.	1843-44.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	150,326	23,089	235	1,44,311

Indapur	80	222,515	161	277	78,711
Khed	184	104,063	5371	194	99,068
Pabal	57	147,984	511	559	98,915
Purandhar	69½	147,983	12,012	885	86,763
Bhimthadi	69	150,366	48	177	81,753
Haveli	83	97,116	930	2047	85,239
Maval	180	32,709	620	--	60,365
Poona City	2	2220	175	38	7966
Grazing	--	--	--	86	1331
Total	900½	1,055,282	42,917	4498	7,44,422
Baramati	21	--	2346	354	24,388
Bhimthadi	11	--	--	--	--
Purandhar					
Haveli					
Pabal					
Total	932½	--	45,263	4852	7,68,810

continued

SUB-DIVISION.	1844-45.				
	Village.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	144,682	33,007	808	1,28,573
Indapur	80	227,089	20,022	3174	56,663
Khed	184½	105,133	5015	123	1,00,006
Pabal	57	145,997	75	2098	92,118
Purandhar	69½	158,350	1057	15,471	82,908
Bhimthadi	69	149,855	21,963	4684	53,512

Haveli	85	99,295	99	4670	89,718
Maval	180	32,726	13	233	60,039
Poona City	--	--	--	--	--
Grazing	--	--	--	--	1353
Total	901	1,063,127	81,251	31,261	6,64,890
Baramati	21	--	6270	1736	17,534
Bhimthadi	11	--	4874	324	6975
Purandhar					
Haveli					
Pabal					
Total	933	--	92,395	33,321	6,89,399

In the surveyed villages of Haveli tillage showed a decrease from 87,310 to 87,021 acres, and, in the unsurveyed villages, an increase from 12,026 to 12,274 acres.]

The people of Bhimthadi and Indapur were suffering and miserable. Of £8125 (Rs. 81,250) or 10½ per cent remissions, £7499 (Es. 74,990) or 92 per cent were given in the late-crop sub-divisions of Junnar, Indapur, and Bhimthadi. The good soil and abundant irrigation in Purandhar prevented the necessity of remissions. [Mr. Inverarity, 27th February 1846, Bom. Gov. Rev. Rec. 17 of 1847, 86.] The failure of rain showed that the great increase in tillage which especially in Indapur and Bhimthadi in the east had followed the introduction of Mr. Goldsmid's settlement was by no means an unmixed improvement. In February 1846 Mr. Inverarity remarked that the main causes of the fall in tillage were the poverty of the landholders and the exhaustion of soil from constant cropping. The more highly assessed lands had fallen waste because the unthrifty habits of the people led them to till for a few seasons the poorer waste fields rather than spend time and labour in renewing by artificial means the exhausted powers of the more valuable lands. [Mr. Inverarity, Collector, Feb. 1846, Bom. Gov. Rev. Rec. 17 of 1847, 81-86.] A succession of bad seasons had caused a decline in tillage, increased remissions, and increased advances. Many of the people had lost heart and mortgaged fields with standing crops to village Vanis. As a mortgage of land in most cases ended in complete transfer of the proprietary right, a body of landholders

possessing capital might in time be formed. Mr. Inverarity, Collector, Feb. 1846, Bom. Gov. Rev. Rec. 17 of 1847, 97-98.]

1845-46.

In 1845-46 matters were worse even than in 1844-45. Want of rain especially in the east destroyed the late crops. It was only by a sudden rise in the price of grain that landholders were saved from ruinous loss. At Indapur the rupee price of Indian millet or *jvari* rose from about 120 to 72 pounds (60-36 *shers*). Over the whole district collections fell from £68,940 to £68,517 (Rs. 6,89,400 to Rs. 6,85,170); £10,546 (Rs. 1,05,460) or 1288 per cent were remitted and £2776 (Rs. 27,760) left outstanding. [Bom. Gov Rev Rec. 15 of 1848, 10, 11, 60-63, 72, 100, 134, Rev. Rec. 23 of 1849, 80. The details are;

Poona Tillage and Revenue, 1844-1846.

SUB-DIVISION.	1844-45.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	144,682	33,007	808	1,28,573
Indapur	80	227,089	20,022	3174	56,663
Khed	184½	105,133	5015	123	1,00,006
Pabal	57	145,997	75	2098	92,118
Purandhar	69½	158,350	1057	15,471	82,908
Bhimthadi	69	149,855	21,963	4684	53,512
Haveli	85	99,295	99	4670	89,718
Maval	180	32,726	13	233	60,039
Grazing	--	--	--	--	1353
Total	901	1,063,127	81,251	31,261	6,64,890
Baramati	21	--	6270	1736	17,634
Bhimthadi	11	--	4874	324	6975
Purandhar					

Haveli					
Pabal					
Lapsed	--	--	--	--	--
Total	933	--	92,395	33,321	6,89,399

continued..

SUB-DIVISION.	1845-46.				
	Villages.	Tillage.	Remissions.	Out standings	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	147,214	11,469	415	1,53,305
Indapur	101	252,302	57,351	5752	37,127
Khed	184½	104,755	1215	587	1,03,723
Pabal	57	149,323	--	41	97,392
Purandhar	76½	169,666	2051	6873	1,02,194
Bhimthadi	71	146,442	32,988	10,000	37,635
Haveli	96	98,432	24	2762	93,168
Maval	180	33,954	358	1328	60,630
Grazing	--	--	--	--	--
Total	932	1,102,088	1,05,456	27,768	6,85,174
Baramati	--	--	--	--	--
Bhimthadi	--	--	--	--	--
Purandhar					
Haveli					
Pabal					
Lapsed	6	--	491	225	3663
Total	938	--	1,05,947	27,983	6,88,837

Of the whole remissions 85 per cent were granted in Indapur and Bhimthadi. The people were so impoverished that the rule against remissions in finally surveyed villages had to be broken. The scale on which remissions were granted was, if the crop was half a failure a quarter of the rent was remitted; if nine-sixteenths a failure six-sixteenths were remitted, if ten-sixteenths half was remitted, if eleven-sixteenths ten-sixteenths were remitted, if twelve-sixteenths eleven-sixteenths were remitted, and if more than twelve-sixteenths had failed the whole rent was remitted. In Bhimthadi and Indapur about 15,000 acres passed out of tillage. Large numbers of people on the verge of starvation were employed in making a road from Patas to Indapur. [Bom. Gov. Rev. Rec. 15 of 1848, 60-63, 72-74. The waste in Indapur increased to about 24,000 acres, Bom. Gov. Sel. CVII. 37.]

1846-47.

The season of 1846-47 was favourable. The early rain was somewhat scanty, but especially in the east the late harvest was excellent. [Mr. Courtney, Collector, 10th December 1846, Bom, Gov. Rev. Rec. 15 of 1848, 74; Rev. Rec. 23 of 1849, 18-19.] At Indapur the rupee price of Indian millet or *jvari* rose from about 72 to 30 pounds (36-15 *shers*). Over the whole district the tillage area rose from 1,102,088 to 1,148,755 acres and the collections from £68,517 to £81,561 (Rs. 6,85,170 to Rs. 8,15,610); £1928 (Rs. 19,280) or 2¼ per cent were remitted and £2247 (Rs. 22,470) left outstanding. [Bom. Gov. Rev. Rec. 23 of 1849, 80, 171, 178. The details are:

Poona Tillage and Revenue, 1845-1847.

SUB - DIVISION.	1845-46.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	147,214	11,469	415	1,53,305
Indapur	101	252,802	57,351	5752	37,127
Khed	184½	104,756	1215	587	1,03,723
Pabal	57	149,828	--	41	97,392
Purandhar	76½	169,666	2051	6878	1,02,194

Bhimthadi	71	146,442	32,988	10,000	37,635
Haveli	86	98,432	24	2762	93,168
Mavel	180	83,964	358	1328	60,630
Total	932	1,102,088	1,05,456	27,758	6,85,174
Lapsed	6	--	491	225	3663
Attached	--	--	--	--	--
Total	938	--	1,05,947	27,983	6,88,837

continued..

SUB - DIVISION.	1846-47				
	Villages.	Tillage.	Remission.	Outstandings.	Collections.
--	--	Acres.	Rs.	Rs.	Rs.
Shivner	176	159,468	2845	42	1,73,488
Indapur	101	254,972	3077	7828	94,565
Khed	184½	112,514	2320	172	1,09,895
Pabal	57	154,264	601	187	99,408
Purandhar	77½	179,113	6117	1976	1 07,971
Bhimthadi	71	153,518	4291	6501	71,175
Haveli	89	100,271	17	5310	93,852
Mavel	181	34,635	15	457	65,252
Total	937	1,148,755	19,283	22,473	8,15,606
Lapsed	--	--	--	--	--
Attached	9	--	1962	1857	6352
Total	946	--	21,245	24,330	8,21,958

There were besides in 1846-47, 979 Government hamlets or *vadis* and 249 alienated Tillages and 58 alienated hamlets or *vadis*.]

Remissions fell from twelve to 2¼ percent and about 40,900 acres of land assessed at £3450 (Rs. 84,500) were taken for tillage. [Bom.

Gov. Rev. Rec. 23 of 1849, 65, 83-85.] Remissions were still necessary, Writing on the 21st of December 1847 Mr. Courtney the Collector expressed the opinion that in bad seasons remissions would continue necessary. The landholders were notoriously improvident, few had any capital. Instead of saving any surplus which remained after a plentiful season, they squandered it on some religious or family ceremony. [Bom. Gov. Rev. Rec. 23 of 1849, 172-173.] The new settlement had been introduced into the Supa petty division of Purandhar in 1844. It proved so successful that notwithstanding that the Government demand was so much lowered and the two last seasons (1844 and 1845) were indifferent, the increase of revenue had more than repaid the cost of the settlement. For the three years before the survey the actual collections on account of the land tax were £9909 (Rs. 99,090) and for the three years after the survey the corresponding amount was £12,484 (Rs. 1,24,840) that is an increase of 24 per cent. [Lieut. Evans, assistant superintendent of survey, 13 of 18th Feb. 1847 para 2.]

1847-48.

In 1847-48 the rains were not so good as in the preceding year. At Indapur the rupee price of Indian millet or *jvari* fell from about 30 to 96 pounds (15-48shers). [Bom. Gov. SeL CVII. 74. Writing on the 21st of December 1847 (Bom. Gov. Rev. Rec. 23 of 1849, 173-174) Mr. Courtney the Collector said, ' The great cheapness of grain is likely in the present season to occasion some difficulty in realizing the revenue from the cultivating classes. The price of all descriptions of agricultural produce is now full 25 or 30 per cent lower than it was at this time last year, and as the landholder must look to the sale of his crop alone for the money with which to pay his revenue, a season of excessive cheapness is not by any means so favourable to him as to the rest of the community. '] Over the whole district the tillage area rose from 1,148,755 to 1,228,304 acres and 610 -Rs. 8,18,450); £2462 (Rs. 24,620) or 2.8 per cent were remitted, and £718 (Rs. 7180) left outstanding. [Bom. Gov. Rev. Rec. 16 of 1850, 42, 43, 76. The details are: *Poona Tillage and Revenue, 1846-1848.*

SUB-DIVISION	1846-47.				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.

Shivner	176	159,468	2845	42	1,73,488
Indapur	101	254,972	3077	7828	94,565
Khed	184½	112,514	2320	172	1,09,895
Pabal	57	154,264	601	187	99,408
Purandhar	77½	179,113	6117	1976	1,07,971
Bhimthadi	71	153,518	4291	6501	71,175
Haveli	89	100,271	17	5310	93,852
Maval	181	34,635	15	457	65,252
Total	937	1,148,755	19,283	22,473	8,15,606
Attached	9	--	1962	1857	6352
Total	946	--	21,245	24,330	8,21,958

continued..

SUB-DIVISION	1847-48.				
	Villages.	Tillage.	Remissions.	Out-standings.	COLLECTIONS.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	168,448	13,870	129	1,70,597
Indapur	101	289,378	5197	3748	1,00,888
Khed	184½)	112,055	3204	24	1,08,470
Pabal	58	164,982	938	22	1,04,605
Purandhar	77½	212,382	907	1657	97,497
Bhimthadi	72	144,403	--	1020	75,467
Haveli	88	100,486	50	576	96,390
Maval	182	36,170	456	--	64,537
Total	939	12,28,304	24,622	7176	8,18,451
Attached	12	--	2172	930	7939
Total	951	--	26,794	8106	8,26,888

In 1847 the thirty years revenue survey settlement was introduced into the Sasvad mamlatdar's division of Purandhar. The survey was began in 1843 and finished in 1847. This group contained thirty-sewn Government villages. Of these one was at the foot of the Purandhar fort and therefore dwindled after the garrison was reduced. It had no lands attached to it; those belonging to the fort were not measured at the former survey. Six of these villages had lately lapsed to Government. *Bajri* and *jvari* were the chief grains. In the south-west villages *bajri* alternated with monsoon *jvari*, wheat, and gram; and gram was not unfrequently grown as a cold-weather crop on land from which *bdjri* had been reaped. There were a few patches of rice in the hill villages near the fort of Purandhar, and a small quantity of land was watered by the Karha river, and in one or two villages from perennial streams. A line of hills, an offshoot from the Purandhar range, divided Purandhar from the settled sub-divisions of Poona, Haveli, and Bhimthadi. The town of Sasvad sixteen miles from Poona, was on the made road between Poona and Satara by the Bapdev pass. This pass was very steep, and, as its ascent required an additional air of bullocks, it was but little used by carts. The chief portion of the surplus produce of this group was conveyed to the Poona market by pack-bullocks. The Purandhar mamlatdar's station was at Sasvad where a market was held every Monday. Those of the landholders who could it, preferred taking their grain to Poona Lieutenant Evans the assistant superintendent of survey writing on the 18th of February 1847, inclined to think that not much was sold locally. The small quantity of rice that was grown was sold and used on the spot, chiefly at Purincha and Sasvad. At Sasvad millet rupee prices had risen for *bajri* from about 54 pounds (27 *shers*) in 1837-38 to about 35 ½ pounds (17½ *shers*) in 1845-46 and for *jvari* from about 82 pounds (41 *ahera*) to about 31½ pounds (15¾ *shers*). [The details are:

Sasvad Millet Rupee Prices, 1837-1846.

YEAR.	<i>Bajri.</i>	<i>Jvari.</i>	YEAR.	<i>Bajri.</i>	<i>Jvari.</i>
	<i>shers.</i>	<i>Shers.</i>		<i>Shers.</i>	<i>Shers.</i>
1837-38	27	41	1845-46	17¾	15¾
1838-39	31	28	Total	334¾	308½

1839-40	21	35	Add	15	19¾
1840-41	27¾	35½	Poona <i>shers</i>	249¾	327¾
1841-42	22	32½	Average	27¾	86¼
1842-43	30¾	46			
1843-44	36	45			
1844-45	21½	29¾			

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In fifteen villages of this survey group, during the ten years ending 1846-47, the tillage area rose from 13,473 acres assessed at £1772 (Rs. 17,720) in 1837-38 to 16,882 acres assessed at £2112 (Rs. 21,120); remissions fell from £207 (Rs. 2070) to £19 (Rs. 190), and collections rose from £1565 (Rs. 15,650) to £2093 (Rs. 20,930), The details are:

Purandhar Tillage and Revenue, 1837-1847.

YEAR.	Tillage.	Rental.	Remis-sions.	Collec-tions.	YEAR.	Tillage.	Rental.	Remis-sions.	Collec-tions.
	Acres.	Re.	Re.	Rs.		Acres.	Rs.	Rs.	Rs.
1837-38	13,473	17,719	2072	15,647	1842-43	15,669	19,982	3078	16,904
1838-39	13,667	17,824	2516	15,308	1843-44	15,532	19,870	2558	17,312
1839-40	14,057	18,206	1728	16,478	1844-45	15,254	19,219	335	18,884
1840-41	15,011	19,300	5266	14,034	1845-46	15,586	19,644	66	19,578
1841-42	15,239	19,445	5194	14,251	1846-47	16,882	21,120	187	20,933

To assess their dry-crop lands the thirty-six villages were arranged into four classes. In the first class were placed ten villages and they were charged acre rates of 2s. 3d. (Rs. $\frac{1}{8}$), 1s. 10½d. (15 as.), and 1s. 3¼d. (10 ½ as.) for black lands; 1s. 6¾d. (12 ½ as.), 1s. 1¾d. (9¹/₆ aa.), and 9¾d. (6¼ as.) for red lands; and 11½d. (7³/₈ as.), 7¼d. (4⁵/₆ as.) and 4¾d. (3¹/₆ as.) for brown or *barad* lands. In the second class were placed fifteen villages with acre rates of 1s. 11½d. (15²/₈ as.), 1s. 7½d. (13 as.), and 1s. 1¾d. (9¹/₆ as.) for black lands; 1s. 4½d. (11 as.), 1s. (8 as.) and 8½d. (5⁵/₁₂ as.) for red lands; and 10½d. (6 aa.), 6¼d. (4¹/₆ as.), and 4½d. (2¾ as.) for brown or *barad* lands. In the third class were placed nine villages with acre rates of 1s. 9¾d. (14½ as.), 1s. 5¾d. (11⁵/₆ as.), and 1s. ½d. (8³/₈ as.) for black lands; 1s. 2¾d. (9⁵/₆), 10¾d. (7¹/₄ as.), and 7½d. (5 as.) for red lands; 9½d. (6¹/₁₂ as), 5¾d. (3⁵/₆ as.), and 3¾d. (2½ as.) for brown or *barad* lands. The two remaining villages were assessed at the *Suparates*. The rice lands were of trifling extent. The rates proposed by Lieutenant Evans the assistant superintendent were 6s. (Rs. 3), 4s. 6d. (Rs. 2¼), and 3s. (Rs. 1½). These rice rates, compared with the dry-crop rates, were, in the opinion of Captain Wingate, rather high than low. Having no experience of the rice cultivation of this district he however could not give any decided opinion as to their fitness. Government authorized the Collector to make any reductions in the proposed rates which he and Lieutenant Evans the assistant superintendent of survey might deem necessary at the time of introducing them. Grass lands unfit for grain found within the limits of a landholder's field were assessed at acre rates of 1¼d. and 2½d. (10¹⁰/₁₂ as. and 1⁵/₁₂ as.). As the extent and value of hill lands were but trifling, Governments authorized the Collector to continue the existing mode of assessing them unless he could introduce some other system whose working could be more easily and efficiently superintended by the district officers without being distasteful to the cultivators. [Lieutenant Evans, assistant superintendent, 13 of 18th February 1847; Captain Wingate, Superintendent of Survey, 128 of 6th October 1847; Government Letter 544 of 26th January 1848.] The effect of the dry-crop or *jirayat* settlement was to reduce the revenue of the tillage area from £4906 (Rs. 49,060) in 1846-47 to £3390 (Rs. 33,900) in 1847-48 or 30 per cent. [Mr. Reeves, Collector, 2842 of 1st Oct. 1849.].

Baramati, 1847-48.

In 1847-48 the survey settlement was introduced into twenty villages of the Baramati group in Indapur. These villages lapsed in 1844-45. The tillage area in twenty-one villages rose from 44,987 *bighas* in

1837-38 to 48,214 *bighas* in 1842-43 and fell to 42,544 *bighas* in 1845-46. Collections including cesses rose from £1538 (Rs. 15,380) in 1837-38 to £1933 (Rs. 19,330) in 1845-46 The details are:

Baramati Tillage and Revenue, 1837-1848.

YEAR.	Villages.	FULL RATE OR Sosti.		SHORT RATE OR <i>Ukti</i> .		LEASED OR <i>Kauli</i> .		GARDEN.	
		Area.	Rental.	Area.	Rental.	Area.	Rental.	Area.	Rental.
		<i>Bighas.</i>	Rs.	<i>Bighas.</i>	Rs.	<i>Bighas.</i>	Rs.	<i>Bighds.</i>	Rs.
1837-38	21	4960	4946	25,632	11,915	14,315	4188	30	147
1842-43	21	6917	7402	20,955	8495	20,312	7803	30	147
1843-44	21	4616	4764	24,890	11,817	17,817	7204	30	147
1844-45	21	4651	4861	25,558	12,036	15,737	6912	135	212
1845-46	21	5553	5585	25,440	12,049	11,416	5392	135	237
		Acres		Acres.		Acres.			
1846-47	20	6881	9209	22,907	15,037	4737	3268	--	--
1847-48	20	56,174	27,495	--	--	1732	696	--	769

YEAR.	TOTAL.				DEDUCT.			Net Revenue.
	Area.	Rental.	Cesses and Grazing.	Total Revenue.	Remissions.	Village Expenses.	Total.	
	<i>Bighas.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1837-38	44,937	21,196	1203	22,399	347	6669	7016	15,383
1842-	48,214	23,847	181	24,028	849	4957	5806	18,222

43								
1843-44	47,353	29,932	959	24,891	2346	5776	8122	16,769
1844-45	46,081	24,021	1519	25,540	6270	3926	10,195	15,345
1845-46	42,544	23,263	1351	24,614	5283	--	5283	19,331
	Acres.							
1846-47	34,525	27,514	1017	28,531	2428	7003	9431	19,100
1847-48	57,906	28,960	813	29,773	5245	6471	11,716	18,057

The new acre rates were for black lands 1s. 7¾ d. (13¹/6 as.), 1s. 4d (10²/₃ as.), and 11⅛d.(7⁵/12as.) ; for red lands 1s. 1¼d.(8⁵/6as.).8¾ d(5⁵/6as.) and 5d. (3¹/₃ as.), and for *barad* or rocky lands 6⅝d (4⁵/12as.), 4d. (2²/₃ as.), and 2d ½. (1²/₃ as.). *Ukti* or short rates were in use until the new assessment was introduced in 1847-48 when both the *ukti* the short and the *sosti* or full rate tenures ceased. About 1730 acres were allowed to be held on *istava kaul* or rising leases either till the lease expired or till the amount was as high as the survey assessment. [Bom. Gov. Rev. Rec. 205 of 1849, 192-195.] Compared with. £2108 (Rs. 21,080) the average collections of the fire years ending 1846-47, £2896 (Rs. 28,960) the survey rental on the area under tillage showed a rise of 37 per cent. There were 11,693 acres of waste assessed at £479 (Rs. 4790). [Mr. Bell, assistant superintendent, 25th November 1848; Bom, Gov. Rev. Rec. 205 of 1849, 173, 180, 187, 200, 201, 224, 227, 231, 247.]

In October 1849, in submitting the settlement report to Government, the Revenue Commissioner Mr. Townsend remarked that to a certain extent every new assessment must be viewed as an experiment, the success of which could be estimated only by the experience of some years. He pressed upon Government the necessity of opening more roads. In this group of villages no improvement could be expected unless a good road was made to Baramati. Government had done much to lessen their demands. Unless trade was encouraged by the opening of roads, after a few years a further reduction in the Government demand would be necessary. [Bom. Gov. Rev. Rec. 205 of 1849, 176.] Government approved of the settlement. At the same time they observed, apparently in reference to the increase of 37 per

cent in this survey group, that both the Revenue Commissioner and the Collector should watch with care the working of the new rates. Government had sanctioned the preliminary arrangements made under the late Lieutenant Nash's superintendence with no feeling of confidence. It should be considered as a standing rule that when rates submitted for approval are compared with the rates obtaining in districts where the assessment had been for some time revised, the manner in which that revised assessment has worked should be fully shown. [Gov. Letter 7214 of 6th Dec. 1848, Bom. Gov. Rev. Rec. 205 of 1849, 249.]

1848-49.

1848-49 was an average season. Untimely and scanty rain injured the early crops, but the late harvest was more favourable. Remissions rose from 2.8 to 4.9 per cent. At Indapur the rupee price of Indian millet or *jvari* fell from about 96 to 144 pounds (48-72 *shers*). Over the whole district the tillage area fell from 1,228,304 to 1,227,898, acres and the collections from £81,845 (Rs. 8,18,450) to £77,535 (Rs. 7,75,350); £4061 (Rs.40,610) or 49 per cent were remitted and £1184 (Rs. 11,840) left outstanding. [Bom. Gov. Rev. Rec. 24 of 1851, 7, 13, 47, 62. The details are:

Poona Tillage and Revenue, 1847 - 1849

SUB-DIVISION.	1847-48				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	168,448	13,870	129	1,70,597
Indapur	101	289,378	5197	3748	1,00,888
Khed	184½	112,055	3204	24	1,08,470
Pabal	58	164,982	938	22	1,04,605
Purandhar	77½	212,382	907	1657	97,497
Bhimthadi	72	144,403	--	1020	75,467
Haveli	88	100,486	50	576	96,890
Maval	182	36,170	456	--	64,537

Total	939	1,228,304	24,622	7176	8,18,451
Sequestrated	12	--	2172	930	7937
Total	951	--	26,794	8106	8,26,888

continued..

SUB-DIVISION.	1848-49.				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections:
		Acres.	Rs.	Rs.	Rs.
Shivner	176	168,270	21,068	832	1,39,843
Indapur	101	291,165	--	1530	1,08,410
Khed	185½	112,733	18,918	29	94,606
Pabal	58	167,037	421	72	1,03,885
Purandhar	77½	210,738	40	998	97,789
Bhimthadi	72	140,438	18	8055	68,178
Haveli	88	101,708	50	315	98,239
Maval	182	35,809	95	7	64,405
Total	940	1,227,898	40,610	11,838	7,75,355
Sequestrated	15	--	4,530	1393	8462
Total	955	--	45,140	13,231	7,83,817

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In 1848-49 Bhimthadi was far from prosperous. Mr. Reid the assistant collector wrote on the 25th of February 1850, ' I do not see how Bhimthadi will ever be a paying district. Its population is scanty, the rains are variable, and its assessment compared with that of the neighbouring districts of Supa and Indapur is heavy.' [Mr. Reid, second assist, collector, 25th Feb. 1850, Bom. Gov. Rev. Rec. 16 of 1850. 206; Gov. Letter 9756 of 21st Dec 1850, Gov. Rev. Rec. 16 of 1850, 238-244.]

Bori, 1848-49.

In 1848 the survey settlement was introduced into the Bori petty division of Junnar. The survey of this group was begun in 1842, but with the object of completing the survey of Mangoli in Sholapur survey operations in Bori remained at a stand from 1842 to 1845. Work was begun in 1845 and was finished in 1846. Bori was bounded on the north by the range of hills of the Brahmanvadi petty division of Junnar, on the east by the Nagar district, on the south by Pabal, and on the west by the Haveli villages of Junnar. Of the thirty villages included in this survey group one village was annexed in 1836. The climate of Bori was almost the same as the climate of north Pabal. From the point westward where Bori adjoined the Junnar-Haveli group the supply of rain became gradually more uncertain and less plentiful, till, at the point where Bori joined the Ahmadnagar district, the fall was very uncertain. The chief grains were millets, wheat, and gram. There were 1304 ploughs, 338 carts, and 7950 bullocks.- Of 2455 landholders 2044 were *mirasdara* or hereditary holders, 293 were *upris* or casual holders, and 118 were *ovandkaris* or strangers. According to Mr. Pringle's survey there were 74,865 acres of Government arable land and 5093 acres of alienated land or a total of 79,958 acres assessed at £7863 (Rs. 78,630) that is an average acre rate of 1s. 11½d. (15½as.). Of the Government arable area 24,813 acres were waste, and 50,052 acres were under tillage. The rental on the tillage area was £5110 (Rs. 51,100) or 2s. ½d. (Re. 1as.½) the acre. The area held for tillage increased from 46,420 in 1829 to 50,052 acres in 1846. Remissions during the sixteen years ending 1845 averaged £1035 (Rs. 10,350), and during the five years ending 1846 averaged £741 (Rs. 7410). Bori being a long slip of land lying in a line parallel with Pabal, and the climate and market prices in both being much the same, the Pabal rates with a slight increase on the red land were proposed for Bori. The details are:

Bori Survey Bates, 1846.

SOIL.	Class I. 6 Villages.	Class II. 16 Villages.	Class III. 8 Villages.
	<i>Res*</i>	<i>Res</i>	<i>Res.</i>
1st Black	590	490	390
2nd do.	470	390	310
3rd do.	330	270	220

* Four hundred rat equal one rupee or two shillings.

Poona Waste. 1848-49.

SUB-DIVISION	Arabia.	Waste.		SUB-DIVISION.	Arable.	Waste.	
		Area.	Per-Cent			Area.	Per Cent
	Acres.	Acres.			Acres.		
Shivner	228,018	59,747	26.2	bhimthadi	217,280	76,842	35.37
Indapur	315,539	24,375	7.52	Haveli	114,374	12,666	11.07
Khed	170,796	58,063	34.00	Maval	75,391	39,583	52.50
Pabal	182,051	15,013	8.22	Total	1,531,366	303,468	19.82
Purandhar	237,917	17,179	7.52				

Bori Survey Rates, 1846—continued.

SOIL— <i>continued.</i>	Class I. 6 Villages.	Class II. 16 Villages,	Class III. 8 Villages.
	<i>Res</i>	<i>Res.</i>	<i>Res.</i>
1st Red	450	350	260
2nd do.	325	250	180
3rd do.	175	130	110
1st <i>Barad</i>	210	180	140
2nd do.	120	100	80
3rd do.	70	60	50

The area of watered land was considerable. Of 657 wells twenty-nine were in alienated land; there were also numerous small channels. From both sources a total area of 4100 acres were watered. Many of these channels were used only in seasons of more than average rainfall. In seasons of moderate rain many of them were without water. It was proposed that the rental on these channels should not be demanded except when they were used. Under the former survey the acre rate on the garden land was 6s. (Rs. 3), but only a small portion (48 acres) of the watered land was included under this head. It was

proposed to impose the Pabal garden land rate of 4s. (Rs. 2) in Bori. According to the new survey the garden area amounted to 4100 acres and the rental to £472 (Rs. 4720) or an average acre rate of a little more than 2s. (Re.1). [As the supply of water was not enough to cover the whole garden area at the same time, each holder watered part of his land in turns so that the actual amount of land watered at one time was far less than 4100 acres.] The details are:

Bori Settlement, 1846.

VILLAGES.	FORMER.	SURVY.				
	Rental on Tillage.	Arable.	Occ pied.			Waste.
			Dry Crop.	Garden.	Total.	
	Rs.	Acres.	Rs.	Rs.	Rs.	Rs.
30	54,643	98,514	40,310	4,719	45,038	10,480

During the preceding five years the average remissions were about £740 (Rs. 7400). Deducting this sum from the former rental on the tillage area and comparing the balance with the survey rental on the occupied area there appears a reduction of about 4½ per cent. The proposed settlement was sanctioned in September 1848. [Capt. Landon, aasunt. 9th Oct. 1846; Lieut. Nash, Supt. 280 of 2nd Nov. 1846; Capt Wingate, Supt. 8onthem Maratha Country, 152 of 11th Aug. 1848; Gov. Utter to the Eev. Comr, 6160 of 4th Sept. 1848.]

1849-50.

1849-50 seems to have been a less favourable year than 1848-49. There was a fall in the tillage area of 31,179 acres. At the same time remissions declined from 4.9 to 3.9 per cent. At Indapur the rupee price of Indian millet or *jvari* was the same as in the previous year, about 144 pounds (72 *shers*). Over the whole district the tillage area fell from 1,227,898 to 1,196,719 acres and the collections from £77535 (Rs. 7,75,350) to £76,243 (Rs. 7,62,430); £3148 (Rs. 31,480) or 3.9 per cent were remitted, and £1076 (Rs. 10,760) left outstanding. [Bom. Gov. Rev. Rec. 24 of 1851, 211, 220, 270. The details are:

Poona Tillage and Revenue, 1848-1850.

Sub-Division.	1848-49.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	168,270	21,068	832	1,39,843
Indapur	101	291,165	--	1530	1,08,410
Khed	185½	112,733	18,918	29	94,606
Pabal	58	167,037	421	72	1,03,885
Purandhar	77½	210,738	40	998	97,789
Bhimthadi	72	140,438	18	8055	68,178
Haveli	88	101,708	50	315	98,239
Maval	182	35,809	95	7	64,405
Total	940	1,227,898	40,610	11,838	7,75,355
Sequestrated	15	--	4530	1393	8462
Total	955	--	45,140	13,231	7,83,817

continued..

Sub-Division.	1849-50.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	178,344	14,370	3196	1,26,825
Indapur	101	273,595	--	5418	99,461
Khed	185½	112,247	16,539	37	98.004
Pabal	58	159,014	--	--	1,01,715
Purandhar	77½	203,025	198	231	96.106
Bhimthadi	72	131,504	--	1115	71,924
Haveli	88	102,770	226	681	1,01,190
Maval	182	36,220	150	81	67,204

Total	940	1,196,719	31,483	10,759	7,62,429
Sequestered	13	--	4325	1311	6907
Total	953	--	35,808	12,070	7,69,336

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In 1849 the survey settlement was introduced into a group of twenty-six villages of the Brahmanvadi petty division of Junnar. The remaining nine hill villages which contained chiefly occasional hill crop and rice land were left until the survey of this class of land was undertaken. Brahmanvadi was bounded on the north and east by the Ahmadnagar district, on the south by Bori another petty division of Junnar, and on the west by Madh Khore and Harishchandra hill. The hill or *dang* villages lay on the west side of the Brahmanvadi petty division between it and the Harishchandra hill. Brahmanvadi was separated from Bori by a line of hills steep on the south or Bori side and sloping and broken on the north or Brahmanvadi side. In this survey group there were two streams the Kas and the Mul. The Kas was generally dry in January, it had a very deep bed with numerous deep ravines running at right angles from it on either side. The Mul stopped running by February, but had numerous pools which held water all the year. Brahmanvadi was on the high road from Poona to Nasik about a quarter of a mile from the top of the Brahmanvadi pass. The Brahmanvadi villages were badly off for roads. There was a made-road forty miles from Poona to Narayangaon. From Narayangaon, though not made, the road was fair for fourteen miles to the foot of the Brahmanvadi pass. The ascent of this pass was difficult. The pathway was blocked with boulders or crossed by sloping sheet-rock very dangerous for laden animals. From 10,000 to 15,000 head of cattle yearly crossed this pass loaded with grain chiefly *bajri* which they carried to Junnar and Poona and returned laden with salt. There was another road leading out of the Brahmanvadi petty division by Ale where, some years before, part of the road over the Ale pass had been made. At Utur a village in this survey group the rupee price of *bajri* was about 62 pounds (31 *shers*) in 1842-43, about 72 pounds (36 *shers*) in 1843-44, about 62 pounds (31 *shers*) in 1844-45, and about 38 pounds (19 *shers*) in 1845-46. The following statement shows the tillage and revenue during the fifteen years ending 1846-47:

Brahmanvadi Tillage and Revenue, 1832- 1847.

YEAR	Tillage.	Rental.	Remissions.	Collections.
	Acres.	Rs.	Rs.	Rs.
1832-33	30,140	32,772	15,863	16,909
1833-34	33,807	35,525	247	35,278
1834-35	33,912	36,955	778	36,177
1835-36	33,513	36,349	1248	34,101
1836-37	33,341	36,361	20,191	15,170
1837-38	35,119	36,937	1115	35,822
1838-39	33,863	35,704	15,857	19,847
1839-40	36,941	37,580	5904	31,676

continued..

YEAR.	Tillage.	Rental.	Remissions.	Collections.
	Acres.	Rs.	Rs.	Rs.
1840-41	37,698	38,229	1213	37,016
1841-42	37,315	38,102	9182	28,920
1842-43	37,678	38,410	659	37,751
1843-44	37,583	38,665	5887	32,778
1844-45	30,537	38,141	5628	32,513
1845-46	37,223	38,417	1550	36,867
1846-47	39,897	40,377	190	40,187

Daring the fifteen years ending 1846-47, of the average tillage area of 85,711 acres assessed at £3703 (Rs. 37,030), part was granted on short or *ukti* rates or on lease or *kauli* rates. The average remissions were £570 (Its. 5700) and the collections £3133 (Rs. 31,330) from 39,711 acres that is a nominal average acre rate of 1s. 9d. (14 as.). [Captain Landon, 171 of 29th September 1848, paras 15, 19, and ststatement 2. These averages do not agree with the figures in the ststatement.] The correct acre rate was much lower as revised measurement showed that the number of assessable acres was much greater than those entered in the former survey record. Captain

Landon the survey officer attributed the increase in the number of arable acres to the fact that land bordering on fields, which had not been assessed because it was thought too poor for tillage, had been brought under cultivation and improved. This Captain Landon thought might also account for the irregular shape of many fields and for the absence of boundary marks. The new survey left no land unmeasured, field adjoined field, and where there was a space between two fields, it was included in one or other field if it was of small extent and not fit for tillage. If it yielded grass it was assessed as grass land. Patches of bare rock were deducted from the number of assessable acres. In the best soil the former measurement was found generally correct and the shape of the field more regular. This was probably because the whole of such land had been measured.

The twenty-six villages were arranged in four classes with highest dry-crop acre rates 150 to 30 per cent higher than Indapur. The details are:

Brahmanvadi Survey Rates, 1849-50.

SOIL	Indapur Rates.	BRAHMANVADI.			
		150 per cent higher 1 Village.	100 per cent higher 1 Village.	60 per cent higher 13 Villages.	30 per cent higher 11 Villages.
	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>	<i>Res.</i>
1st Black	300	750	600	480	390
2nd do.	240	600	480	354	312
3rd do.	170	425	340	272	221
1st Red	200	500+50	400+50	320	260
2nd do.	130	130+50	260+50	208	269
3rd do.	75	187	150	120	97
1st <i>Barad</i>	100	250	200	160	130
2nd do.	60	150	130	96	78
3rd do	35	87	70	56	45

* FOUR hundred *res* equal one rupee or two shillings.

For the small quantity of grass growing on the edges and rocky parts of the cultivated fields an acre rate of $1\frac{1}{2}d.$ (1 a.) was proposed. It was proposed to rate a few acres of very rich river alluvial or *dheli* soil at $3d.$ (2 as.) and $6d.$ (4 as.) higher than the first black. Of rice land there were about twenty-six acres for which acre rates of $6s.$ (Rs. 3), $4s. 6d.$ (Rs. $2\frac{1}{4}$), and $3s.$ (Rs. $1\frac{1}{2}$) were proposed. For garden land an acre rate of $4s.$ (Rs. 2) for well-watered, and of $6s.$ (Rs. 3) to $2s.$ (Rs. 1) for channel-watered land was proposed. The average rate of the existing settlement on land held for tillage was, according to the former measurement, $2s. 3d.$ (Rs. $1\frac{1}{2}$), and according to the new measurement $1s. 6\frac{1}{2}d.$ ($12\frac{5}{12}$ as.). The average acre rate according to the proposed assessment was $1s. 1\frac{1}{4}d.$ ($8\frac{5}{6}$ as.) According to Mr. Pringle's settlement in the twenty-six villages there were 51,938 arable acres assessed at £4862 (Rs. 48,620) or an average acre rate of $1s. 10\frac{3}{8}d.$ ($14\frac{11}{12}$ as.). According to the revised measurement the arable area was 70,756 acres which gave an average acre rate of $1s. 4\frac{3}{8}d.$ ($10\frac{11}{12}$ as.). There were besides 21,544 acres of grass land on the hills not measured by Mr. Pringle's survey. It was proposed to let them by auction or *makta* as was done in the case of grass lands or *kurans*.

The following statement shows that the survey settlement reduced the Government demand from £3336 (Rs. 33,360) the average collections of the ten years ending 1846-47 to £2856 (Rs. 28,560) the survey rental on the dry-crop and garden tillage area, that is a reduction of 14 per cent. The details are:

Brahmanvadi Settlement, 1849.

Villages.	FORMER.				SURVEY.						
	Total Rental.	1837-1847.			Cultivated.				Waste.		Total Rental.
		Rental.	Remis- sions.	Collec- tions.	Area.	Rental.			Area.	Rental.	
						Dry- Crop.	Garden.	Total.			
	Rs.	Rs.	Rs.	Rs.	Acres.	Rs.	Rs.	Rs.	Acres.	Rs.	Rs.
26	48,622	38,016	4652	33,364	51,724	27,426	1131	28,557	18,932	4419	32,976

The proposed rates were sanctioned with the modification that the first black rate for Utur in the first class should be reduced from 3s. 9d. to 3s. 3d (750 to 650 *res*); this change reduced the total survey rental by about £130 (Rs. 1300). [The assistant superintendent Captain Landon, 171 of 29th September 1848 Captain Wingate, 236 of 22nd December 1848; Mr. Townsend, Rev. Comr. 483 of 29th January 1849; Gov. Letter 1368 of 24th February 1849.]

1850-51.

The season of 1850 was on the whole unfavourable. Partial and irregular falls of rain injured both the early and the late crops. The parts of the district which suffered most were Bhimthadi and the east or plain parts of Junnar, Khed, Pabal, and Maval. Remissions amounted to about 29 per cent in Bhimthadi, 11 in Khed, 8 in Purandhar, 3 in Indapur, and $\frac{3}{4}$ to $1\frac{3}{4}$ in other sub-divisions. Over the whole district the remissions showed an increase from 3.9 to 6.6 per cent. At Indapur the rupee price of Indian millet or *jvari* rose from about 144 to 76 pounds (72-38 *shers*). Over the whole district the tillage area rose from 1,196,719 to 1,215,015 acres, and the collections fell from £76,243 (Rs. 7,62,430) to £73,032 (Rs. 7,30,320); £5196 (Rs. 51,960) or 6.6 per cent were remitted, and £417 (Rs. 4170) left outstanding. [Bom. Gov. Rev. Rec. 18 of 1852, 5, 6, 10, 14, 19, 82. The details are:

Poona Tillage and Revenue, 1849-1851.

SUB-DIVISION.	1849-50.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	178,344	14,370	3196	1,26,825
Iadapur	101	273,595	--	5418	99,461
Khed	185½	112,247	16,539	37	98,004
Pabal	58	159,014	--	--	1,01,715
Purandhar	77½	203,025	198	231	96,106
Bhimthadi	72	131,504	--	1115	71,924
Haveli	88	102,770	226	681	1,01,190

Maval	182	36,220	150	81	67,204
Total	940	1,196,719	31,483	10,769	7,62,429
Sequestrated	13	--	4325	1311	6907
Total	953	--	35,808	12,070	7,69,336

continued..

SUB-DIVISION.	1850-51.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	196,637	1764	17	1,23,338
Iadapur	99	271,007	3513	558	1,01,706
Khed	185½	112,758	12,838	--	1,01,394
Pabal	58	154,354	1,903	358	99,376
Purandhar	76½	203,896	8,236	1931	87,880
Bhimthadi	72	136,762	21,802	159	63,157
Haveli	88	102,297	1,338	1145	97,397.
Maval	182	38,294	562	--	66,077
Total	937	1,215,015	51,961	4168	7,30,324
Sequestrated	15	--	3466	936	6845
Total	952	--	55,427	5104	7,87,169

Poona Waste, 1850-51.

SUB-DIVISION.	Arable.	Waste.		SUB-DIVISION.	Arable.	Waste.	
		Area.	Per-Cent.			Area.	Per Cent
	Acres.	Acres.	-		Acres.	Acres	
shivner	260,187	63,549	24.40	Bhimthadi	217,222	81,461	37.50
Indapur	307,724	36,717	11.92	Haveli	114,967	12,670	11.00

Khed	170,930	58,172	34.02	Maval	75,416	37,122	49.00
Pabal	182,116	27,752	15.22	Total	1,553,320	336,305	21.77
Purabdhar	224,758	20,862	9.27				

]

Junnar 1850-51.

In 1850-51 the thirty years' revenue survey settlement was introduced into 109 villages of Junnar. [Bom. Gov. Sel. LXX. 67.] For revenue and magisterial purposes the Shivner or Junnar subdivision included three divisions, one in charge of a mamlatdar and two in charge of mahalkaris. The mamlatdar was stationed at Junnar and the mahalkaris at Brahmanvadi and Bori. The survey settlement was introduced into the thirty villages of the Bori group in 1848, into the twenty-six villages of the Brahmanvadi group in 1849, and into the 109 villages of the Junnar group in 1850-51. The Junnar group was bounded on the north by the Brahmanvadi petty division and part of the Akola sub-division in Ahmadnagar, on the east by the Bori petty division, on the south by Pabal and Khed, and on the west by the Sahyadri hills. Numerous distinct spurs stretched east and southeast from the Sahyadris gradually falling into the plain. The extreme west was very rugged, and so broken by ravines that bullock and plough tillage was generally impossible. Its place was taken by a hand tillage known as *dali*. Further east the valleys broadened and the usual form of tillage became general. From the town of Junnar on the west to the Bori petty division on the east was a tract known as the Haveli group. A happy combination of favourable rainfall and fertile soil made this one of the richest spots in the Deccan. Nowhere else in Poona was the fall of rain so genial and so certain; nowhere else did wheat and other grains yield such, abundant crops. [Surv. Supt. 205 of 25th Nov. 1850, Bom. Gov. Sel. LXX. 69-70.] In the rainy west rice was the staple product, the only dry-crops being *nachni*, *sava*, *khurasni*, and other upland grains. So greatly did the excess of moisture deteriorate and exhaust the soil that after yielding for three or four years the land required taree or four years of rest. From this wet western tract eastwards rice gradually disappeared as the wheat gram and millet lands of the Haveli group were approached. The western villages had often not more than a scanty population of hardy and simple hillmen. The houses were generally small roofed sheds. Their wants were few, and especially during the rains they were often left without crafts-men or traders. In the Haveli group the houses were comparatively well built, and the village communities had the usual staff of crafts-men.

The chief and the most central local market was Junnar; the other leading market towns were Utur and Narayangaon. The rates fixed on the survey and assessment of Junnar carried out under Mr. Pringle were introduced in 1829-30, and till 1850 continued to be the basis of the British revenue collections. During the three years after Mr. Pringle's settlement tillage was stationary; during the fourth year it slightly increased. Each of these four years (1829 -1833) was marked by a yearly fall in revenue. The years 1833-34 and 1834-35 are remarkable as almost the full assessment on the cultivated land was realized. 1836 was evidently a bad season, but, as liberal remissions were given, in the following year the revenue reached its former standard. 1838 was a year of short rain and the remissions amounted to about 45 per cent of the assessment. The effects of this unfavourable season appear to have been felt for the succeeding three years from which time there is nothing remarkable till 1846. In 1848 probably because of the favourable character of the two previous years, the area of land under tillage was greater than in any preceding year of the whole period. The unfavourable season of 1849 caused a decline in tillage. During the twenty-one years ending 1849-50 the tillage area varied from 47,000 acres in 1829-30 to 58,000 acres in 1848-49; the collections varied from £3500 (Rs. 35,000) in 1838-39 to £6500 (Rs. 65,000) in 1842-43, and averaged £5466 (Rs. 54,660) or 2s. ½d. (Re. 1 a¹/₆) the acre. In the ten years ending 1849-50 the collections averaged £5835 (Rs. 58,350) or 2s. ¾d. (Re. 1 us. ⁷/₁₂) the acre. [The details are:

Junnar Tillage and Revenue, 1829 -1850.

YEAR.	Tillage.	Remissions.	Collections.	YEAR.	Tillage.	Remissions.	Collections.
	Acres.	Rs.	Rs.		Acres.	Rs.	Rs.
1829-30	47,000	1000	58,000	1836-37.	52,500	22,000	42,000
1830-31	47,200	11,000	47,000	1837-38	56,000	3000	63,000
1831-32	47,000	15,000	48,000	1838-39	56,000	30,000	35,000
1832-33	52,000	20,000	43,000	1839-40	56,200	20,000	48,000
1833-34	53,000	200	63,000	1840-41	56,000	7000	60,000

1834-35	53,000	100	64,000	1841-41	56,200	16,000	51,000
1835-36	52,500	400	63000	1842-43	56,300	4000	65,000

continued..

YEAR.	Tillage.	Ramissions.	Collection
	Acres	Rs.	Rs.
1843-44	56,300	10,000	58,000
1844-45	55,000	15,000	50,000
1845-46	55,000	8000	57,000
1846-47	57,000	4000	65,000
1847-48	57,000	5000	65,000
1848-49	58,000	10,000	60,000
1849-50	56,000	15,000	53,000

These figures are given from the survey diagram for 109 Junnar villages, The old *kamal* or total arable area of this group was 75,000 acres and the old *kamal* or total rental was £8300 (Rs. 83,000). Bom. Gov. Bel. LXX. 73.]

In 1850 the people of Junnar were badly off. The balk of them appeared to be deep in the moneylenders' books, almost literally living from hand to mouth. The few exceptions seemed to be people who held their lands on favourable terms owing to some inequality in the existing assessment. A great redaction in the Government demand seemed called for. [Bom. Gov. Sel. LXX. 75] To ensure this redaction rates were proposed, which on the land under tillage in 1850 reduced the Government demand 34 per cent. [Bom. Gov. Sel. LXX. 116..] The 109 villages were arranged into five classes whose highest dry-crop acre rates varied from 3s. 6d. (Rs. 1 $\frac{3}{4}$) in the first class to 1s. 6d. (12 as.) in the fifth class. The first class included twenty-two villages in the east of the Haveli group and in the valley of the Kukdi river, extending to the town of Junnar, the tract which has been described as one of the most fertile spots in the Deccan. They were charged a highest dry crop acre rate of 3s. 6d. (Rs. 1 $\frac{3}{4}$). The second class included twenty-four villages lying generally to the west of the first class and was

charged a highest dry-crop acre rate of 3s. (Rs. 1½). In this group though the fall of rain was larger, the soil was much less rich. The third class included nineteen villages with a highest dry crop acre rate of 2s. 6d. (Rs. 1¼), and the fourth class contained thirty-four villages with a corresponding rate of 2s. (Re. 1). The division between the third and fourth classes was the change of products and cultivation from wheat and *bajri* to hill grains. The fifth class contained ten villages charged at a rate of 1s. 6d. (12 *as.*); they were on the tops and slopes of the Sahyadris. As rice tillage was entirely dependent on the rainfall two sets of acre rates, 6s. (Rs. 3) and 5s. (Rs. 2½), were introduced, according as the land lay within or on the skirts of the belt of heavy rainfall. The watered land was either channel-watered or well-watered. The Superintendent proposed for well-watered land an acre rate of 4s. (Rs. 2) in excess of the highest dry-crop rates except in the specially rich gardens to the east of Junnar for which he proposed a rate of 8s. (Rs. 4). For channel watered or *patasthal* land the Superintendent proposed acre rates varying from 2s. (Re. 1) to 6s. (Rs. 3) in excess of the highest dry-crop acre rates. A special acre rate of 12s. (Rs. 6) was proposed for the Hafiz garden about two miles to the east of Junnar which had an unfailing supply of water. In the hilly lands in the west, which were known as the cutting forest or *dali ran*, the Superintendent proposed to continue the former system of the billhook or *koyta* cess. Instead of the uniform *koyta* rate of 1s. 6d. (12 *as.*) the Superintendent recommended three rates, 1s. 3d. (10 *as.*) for the villages of the fifth class, 1s. 6d. (12 *as.*) for the villages of the fourth class, and 2s. (Re. 1) for small patches of billhook tillage in the second and third classes. The total survey rental, including dry-crop, garden, rice, hill-side, and grazing, amounted to £5536 (Rs. 55,360). Compared with £5667 (Rs. 56,670) the average collections of the previous twenty-one years (1829-1850), the total survey rental showed a reduction of £131 (Rs. 1310) or 2.31 per cent. The following statement shows the effect of the survey:

Junnar Settlement, 1850-51.

CLASS.	FORMER.				
	1829-1850.				1849-50.
	Dry-Crop and Garden.	Rice.	Grazing and <i>Dali</i> Lands.	Total.	Dry-Crop Rice and Garden.
	Rs.	Rs.	Rs.	Rs.	Rs.

I	28,400	--	183	28,583	28,081
II	14,313	21	151	14,485	13,474
III	4616	295	236	5147	4698
IV	4378	2193	353	6924	5688
V	553	688	292	1533	1217
Total	52,260	3197	1215	56,672	53,158

continued..

CLASS.	SURVEY.						
	Dry-Crop.		Rice.		Garden.	Grazing and <i>Dali</i> Lands.	Total,
	Area	Rental.	Area.	Rental.	Well and Channel watered.		
	Acres.	Rs.	Acres.	Rs.	Rs	Rs.	Rs.
I	27.057	23,722	--	--	2173	88	25,983
II	23.426	12,986	24	23	903	159	14,071
III	13,364	4928	313	303	81	293	5605
IV	17,693	5042	1710	2041	--	527	7610
V	6017	1001	640	686	--	409	2096
Total	87,557	47,679	2687	3053	3157	1476	55,365

The Superintendent's proposals were approved and sanctioned by Government in April 1851. The only exceptions were that the settlement of the garden lands was not approved; that the old uniform billhook rate was preferred to the proposed three classes; and that in the case of lands which required fallows the rates should be taken every year and not only when crops were grown. [Gov. Letter 41S0 of 15th April 1851. Rom. Gov. Sel. LXX. 141-146.]

1851-52.

The season of 1851 was again unfavourable. An abundant early rainfall was followed by a failure of the late rain and great loss of crops. At

Indapur the rupee price of Indian millet or *jvari* fell from about 76 to 80 pounds (38-40 *shers*). Over the whole district the tillage area rose from 12,15,015 to 12,73,394 acres, and the collections from £73,032 to £80,462 (Rs. 7,30,320-Rs. 8,04,620), £2835 (Rs. 28,350) or 3.3 per cent were remitted, and £326 (Rs. 3260) left outstanding. [Bom. Gov. Rev. Rec. 15 of 1855, 74, 90, 118 - 120, 148. The details are:

Poona Tillage and Revenue, 1850 -1852.

SUB-DIVISION.	1850-51.				
	Villages.	Tillage.	Remissions.	Out-standings	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	196,637	1764	17	1,23,338
Indapur	99	271,007	3513	558	1,01,706
Khed	185½	112,758	12,338	--	1,01,394
Pabal	58	154,364	1908	358	99,375
Purandhar	76½	203,896	8236	1931	87,880
Bhimtbadi	72	135,762	21,802	159	53,157
Haveli	88	102,297	1338	1145	97,397
Maval	182	38,294	562	--	66,077
Total	937	1,215,015	51,961	4168	7,30,324

continued..

SUB-DIVISION.	1851-52.				
	Villages.	Tillage.	Remissions.	Outstandings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	--	1074	57	1,32,059
Indapur	99	--	1603	52	1,07,461
Khed	187½	--	15,422	530	1,05,919
Pabal	58	--	4	17	1,00,260

Purandhar	77½	--	4687	348	1,07,393
Bhimtbadi	73	--	2803	88	80,936
Haveli	89	--	2759	2166	1,00,209
Maval	182	--	--	--	70,386
Total	942	1,273,394	28,352	3258	8,04,623

Remissions in Khed and Haveli alone were in excess of the previous year, and these were only granted in unsurveyed villages where the old system of petitions and inspection of individual losses was in force; and where considerable damage had been sustained owing to the want of rain. In the surveyed villages of the northern sub-divisions no remissions were given on account of failure of rain. Of the remissions shown against Junnar about Rs. 900 were nominal being the difference between the highest or *kamal* rental and the actual amount of settlement of one alienated village under attachment. The large amount of remissions for failure in the southern sub-divisions was rendered necessary by the general unproductiveness of the season]

Ambegaon, 1851-52.

In 1851-52 the survey settlement was introduced into the Ambegaon petty division of Khed. [Lieut. Francis, Surv. Supt. 235 of 4th Dec. 1851, and Gov. Res. quoted in Gov. Letter 1624 of 9th March 1852 to the Rev. Comr. S. D.] This group formed a narrow belt of country stretching from the Sahyadris on the west to the borders of Pabal on the east; it had Junnar on the north and the remaining portion of Khed on the south. It comprised the petty divisions of Ghode, Ambegaon, and Malunga, and contained fifty-eight villages one of which, Sal, had lapsed the previous year. The *mavals* or western portions of Ambegaon and Junnar were much alike. There was perhaps a smaller extent of comparatively level country in the *mavals* of Ambegaon than in those of Junnar. The products of Ambegaon and Junnar were likewise very similar, but in the plain or *desh* portion of Ambegaon cultivation was almost entirely confined to early crops of millets both *bajri* and *jvari*. The proportion of late crop was perhaps less than one-sixteenth of the whole. Wheat and gram were grown as second crops where there was irrigation from wells and channels. The potato was considered one of the ordinary products of the plain villages though it was not so much grown, nor, except in Ghode town, was the country so suited to its growth as in the neighbouring villages of the Ausari petty division of Pabal. Two potato crops were raised in the year. The first was planted in the early part of the monsoon; the after-crop was

planted in December, but it was only where irrigation was available that it could be raised at this season. The potato seemed to be a favourite crop with the landholders chiefly on account of the ready sale the produce met with, to dealers who made a practice of visiting this part of the Deccan to buy for the Bombay and Poona markets. The other products of the Ambegaon group were sold by the landholders to the Vanis of Ghode, Senoli, and Ambegaon. At each of these three places there was a market. Ambegaon was a great store for rice, and Ghode was the chief market for other grains. Senoli was a small and unimportant market. Mr. Pringle's survey settlement was introduced into the Ambegaon group in 1829-30. During the twenty-two years ending 1850-51 the survey diagram showed that tillage fell from 25,000 acres in 1829-30 to 21,250 in 1831-32, and again rose to 26,000 in 1836-37. In the next three years it fell to 25,800 in 1839-40 and again rose to 27,500 in 1840-41. In the next three years it fell to 24,500 in 1843-44 and during the remaining seven years, with a rise in one and a fall in another year, it varied between 25,000 in 1845-46 and 26,250 in 1846-47, 1848-49, and 1850-51. Remissions were Rs. 3000 in 1829-30 and 1830-31, Rs. 1700 in 1831-32 and 1832-33, Rs. 2500 in 1836-37, Rs. 1250 in 1837-38, Rs. 2500 in 1838-39 and 1839-40, and Rs. 1300 in 1843-44, 1844-45, and 1850-51; in other years they were less than Rs. 600. The collections fell from Rs. 14,500 in 1829-30 to Rs. 12,500 in 1830-31, and steadily rose to Rs. 17,000 in 1835-36. In the next four years, except 1837-38 when they were Rs. 17,000, they stood at Rs. 15,000, and rose to Rs. 18,000 in 1840-41. They fell to Rs. 15,500 in 1841-42, rose to Rs. 17,500 in 1842-43, and again fell to Rs. 16,250 in 1843-44. After that they steadily rose to Rs. 18,000 in 1846-47 and fell to Rs. 17,000 in 1850-51. According to the Survey Superintendent Lieutenant Francis, during this whole period, the remissions were very small showing an abatement of only 7½ per cent. In December 1851 he remarked, 'If it can be shown that under an assessment that has been in operation for so considerable a period, the resources of the group have not been impaired, that cultivation has extended accompanied with a corresponding increase of revenue, a reduction proportionate, to the extent of remissions would seem all that is now required.' Lieut. Francis had passed through the group in 1850 and had also visited it during December 1851. He was satisfied that the bulk of the landholders were in fair circumstances. In the hilly west or *maval* part of the group the holdings were small, and the landholders' means were generally very limited; still, as far as he could learn, few of them were in the habit of leaving their villages to seek employment in Bombay or elsewhere, being able to support themselves on the produce of their fields. Considering the superior climate of this group he was of opinion that a new assessment equal to

the amount of former collections would effect all the reduction called for. The rates he proposed were 3s., 2¾s., 2½s., and 2s. (Rs. 1½, Rs. 1?, Rs. 1¼, and Re. 1) for dry-crop lands. For rice lands one uniform rate of 6s. (Rs. 3) was proposed. 1063 acres were under rice and their assessment at the revised rates amounted to £133 (Rs. 1330) or an average acre rate of 2s. 6d. (Rs. 1¼). For garden lands, 6s. (Rs.3) for channels and 4s. (Rs. 2) for wells were proposed. The total garden rental amounted to £49 (Rs, 490). Compared with the previous year's collections (Rs. 16,915) in fifty-seven villages the survey rental on the tillage area (Rs.15,936) [IN para 12 of his report the Survey Superintendent compares the revenue at existing rates, Rs. 18,215 including Rs, 1300 of remissions in fifty-seven villages, with the survey rental on the tillage Rs. 16,436 and shows the reduction to be 9¾ per cent. In para 20 he adds that Rs. 600 should be deducted on account of remissions for fields increased by new rates and compares the collections Rs, 16,915 with the survey rental Rs. 15,936 and shows - the reduction to be 6f per cent, According to the tabular statements Rs. 15,936 should be Rs, 15,486, a change which gives a reduction of 8.7 per cent.] showed a reduction of 5¾ per cent. Including waste and the lapsed village of Sal the survey total amounted to £1951 (Rs, 19,510). Lieut. Francis observed that because of the rather scanty population of some of the village near the Sahyadris, as well as on account of the nature of the soil which required a periodical fallow, the whole of the waste would not be brought under tillage at one time. There was a large extent of hill-land suited only for *dali* bush-clearing tillage. It had not been divided into numbers, but was left in large tracts for the purpose of being brought nnder the *koyta* or billhook, system of assessmeent It was proposed to continue the old rate of 1s. 6d, (12 *as.*) the *koyata*. The following statement shows the effect of the survey:

Ambegaon Settlement, 1851-52.

CLASS.	VILLAGE-S.	FORMER REVENUE.		SURVEY.							
		1829-1851.	1850-51.	1850-51.	Dry-Crop and Garden.		Rice.		Grazing and <i>Dali</i> .	Total.	Dry-Crop Rate
		Rs.	Rs.	Rs.	Acres.	Rs.	Acres	Rs.	Rs.	Rs.	Rs.
I	7	8208	8770	6760	12,095	7576	60,	75	524	8175	

	1	--	1384	663	1043	624	20	25	1	650	1½
II	11	4736	5125	4555	11,349	4784	166	213	622	5619	1¾
III	17	2651	2461	2357	11,307	2662	403	588	242	3492	1¼
IV	22	2508	1859	1764	20,220	3163	434	450	465	4078	1
Total	58	17,903	19,599	10,099	56,614	18,809	1083	1351	1854	22,014	--

The proposed rates were sanctioned by Government in March 1852.

Purandhar.

In the same year the assessments of garden lands in thirty villages and of dry-crop and rice-lands in four villages in the Purandhar subdivision were revised. The former highest rate of assessment on watered land was 10s. (Rs. 5) the *bigha* [The Collector Mr. Reevea, 2842 of 1st October 1849 para 13.] or about 13s. 4d. (Rs. 6½) the acre. Under the revision survey twenty-seven villages contained 977 acres of cultivated well-watered garden land which were assessed at an average acre rate of 3s. 3¾d. (Re. 1 *as.* 10⁷/12) or a total of £162 10s. (Rs. 1625), and twenty-one villages contained 1153 acres of cultivated channel-watered land which were assessed at an average acre rate of 4s. 6¾d. (Rs. 2 *as.* 4½) or a total of £263 4s. (Rs. 2632). In the four villages the cultivated dry-crop Government land amounted to 4546 acres which were assessed at £86 16s. (Rs. 868) or an average acre rate of 4½ d. (3 *as.*); and the cultivated rice-land amounted to 1081 acres which were assessed at £27 16s. (Rs. 278) or an average acre rate of 3s.¾ d. (Re. 1 *as.* 8½). Along with the above proposals Lieutenant Francis the Survey Superintendent proposed to reduce the rice rates introduced in 1848 in the mamlatdar's division of Purandhar from 6s. (Rs. 3), 4s. 6d. (Rs. 2¼), and 3s. (Rs. 1½) to 4s. 6d. (Rs. 2¼), 3s. 6d. (Rs. 1¾), and 2s. 6d. (Rs. 1¼). In confirming the settlement Government ordered the revision of assessment on the rice-lands as proposed by Lieutenant Francis and Captain Wingato. [Lieut. Francis, Survey Superintendent, 1368 of 30th June 1852, 155 of 21st July 1852, and 193 of 3rd September 1852; Mr. Courtney, Revenue Commissioner, 3109 of 21st December 1852; Government Letter 196 of 1853.]

1852-53

The season [Poona Collector's Compilation of 1853, 143, 355.] of 1852 was most favourable. It was one of unusual success to all engaged in agriculture. At Indapur the rupee price of Indian millet or *jvari* fell

from about 80 to 112 pounds (40-56 *shers*). Over the whole district the tillage area rose from 1,273,394 acres to 1,316,767 acres; the remissions fell from £2835 (Rs. 28,350) to £728 (Rs. 7280), and the outstandings from £326 (Rs. 3260) to £45 (Rs. 450); the land revenue collections showed a fall from £80,462 (Rs. 8,04,620) to £80,072 (Rs. 8,00,072 (Rs. 8,00,720)). [The details are:

Poona Tillage and Revenue, 1851 -1853.

SUB-DIVISION.	1851-52.				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	--	1074	57	1,32,059
Indapur	99	--	1603	52	1,07,461
Khed	187½	--	15,422	530	1,05,919
Pabal	58	--	4	17	1,00,260
Purandhar	77½	--	4687	348	1,07,393
Bhimthadi	73	--	2803	88	80,936
Haveli	89	--	2759	2166	1,00,209
Maval	182	--	--	--	70,386
Total	942	1,273,394	28,352	3258	8,04,613

continued..

SUB-DIVISION.	1852-53.				
	Villages	Tillage.	Remissions.	Out standings.	Collection.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	--	14	92	1,31,685
Indapur	99	--	134	--	1,10,179
Khed	187½	--	4257	--	96,379

Pabal	58	--	--	--	99,824
Purandhar	77½	--	996	1	1,06,664
Bhimthadi	73	--	1601	18	84,350
Haveli	89	--	276	341	99,308
Maval	182	--	--	--	72,332
Total	942	1,316,767	7278	452	8,00,721

The remissions in the whole district amounted to 09 per cent. In Khed, where the new survey settlement was introduced this year, they amounted to 4.23, in Bhimthadi to 1.86, in Purandhar to 0.92, in Haveli to 0.27, in Indapur to 0.12, in Shivner or Junnar to 0.01, in Pabal and Maval there were no remissions. Maval was an unsurveyed subdivision and in it all the revenue was collected without difficulty. Poona Collector's Compilation of 1853, 26, 361. According to early or *kharif* and late or rabi crops there were two divisions of instalments for the collection of revenue, 15th of Dec. 1852, 1st of Feb. 1853, 15th of March 1853, and 1st of May 1853, for early crops; and 15th of Jan., 1st of March, 15th of April, and 1st of June, for late crops. Poona Collector's Compilation of 1853, 370.]

In addition to repairs to five wells, one reservoir, nine village offices, and one rest-house, the new works authorized in the Collectorate during the year were two wells, six village offices, one rest-house and one road. The amount sanctioned for such works during the year ending the 30th of April 1853, under the standing orders of the 4th of September 1852, was £204 (Rs. 2040). [Poona Collector's Compilation of 1863, 392]

The following statement shows the working of the 1841 survey rates in eleven villages of the Haveli sub-division between 1841 and 1853: Bom. Gov, Sel. LXX. 10.]

Eleven Haveli Villages, Survey Results, 1841-1853.

YEAR.	Tillage.	Rental.	Remissions.	Collections.	Waste.	Rental.
	Acres.	Rs,	Rs.	Rs.	Acres.	Rs.
1841-42	7013	5269	219	5050	2513	1114
1842-43	8350	5865	--	5865	1238	531

1843-44	8845	6062	--	6062	743	361
1844-45	8328	5837	--	5837	1267	588
1845-46	8281	5846	--	5846	1283	577
1846-47	8310	5927	--	5927	1070	460
1847-48	8455	5991	--	5991	923	395
1848-49	8057	6082	--	6082	746	324
1849-50	8971	6273	--	6273	704	309
1850-51	9016	6315	--	6315	658	266
1851-52	9143	6367	--	6367	531	214
1852-53	9230	6383	--	6383	445	186

SURVEY.

Khed.

In 1852 the thirty years' revenue survey settlement was introduced into the Khed sub-division, [Bom. Gov. Rev. Rec. 172 of 1853.] Khed was one, of the largest subdivisions of Poona. It had two petty divisions Ambegaon and Kuda subordinate to the Khed mamlatdar. The survey settlement was introduced into the Ambegaon group of fifty-eight villages in 1851-52. [Gov. Letter 1624 of 9th March 1852, Comp. 48 of 1852; Lieut. J. Francis, Survey. Superintendent, 299 of 24th December 1852; Rev. Rec. 172 of 1853, 95.] For the remaining 129 villages, forty-seven under the Khed mamlatdar which stretched further east into the plain country and eighty-two under the Kuda mahalkari, survey rates were proposed in December 1852 and sanctioned in May 1853. [Gov. Res. 2543 of 3rd May 1853, Poona Collector's Compilation of 1853, 37.] The lands included in these 129 villages stretched about forty miles from west to east with a breadth of twelve to eighteen miles. It was bounded on the north by Ambegaon lying south of Junnar, on the east by Pabal, on the south by Haveli and Maval, and on the west by the Sahyadris. It was separated by a wide chain of hills from Ambegaon on the north and by a second chain of hills from Maval on the south; and besides, two other ranges of hills which passed through its centre, divided it into the three separate valleys of the Bhima and its two feeders the Indrayani and Bam. [Bom. Gov. Rev. Rec. 172 of 1853, 79, 96.] The Kuda group lay close to the Sahyadris and contained a considerable area of rice. The mamlatdar's

group lay further east where the climate was not moist enough for rice, but was well suited for dry crops. The climate of the mamlatdar's villages was fully equal to that of Poona-Haveli; it was better than that of Pabal, and was not quite so good as that of the Junnar valley. In respect of markets Khed was not so well placed as Haveli but was better off than either Pabal or Junnar. The husbandry was good for the Deccan, and the people were better off than elsewhere. The better condition of the people was perhaps partly due to the fact that Mr. Pringle's assessment in the villages near the Sahyadris was more liberal than his assessment of the east; it was chiefly because the country seldom suffered from a failure of rain. [Captain G. Wingate, Survey Commissioner, 31 of 13th January 1853; Bom. Gov. Rev. Rec, 172 of 1853,85-87.]

From the survey diagram for 127 villages of this Khed group it appears that the area under tillage was 76,000 acres in 1829-30 and 66,000 in 1830-31 and 1831-32. It rose to 73,000 in 1833-34 and with a slight fall in the next year continually increased till it reached 84,000 acres in 1837-38. With a slight fall in the next year it rose to 86,000 in 1839-40. After 1839-40 it continued to shrink until it reached 79,000 in 1844-45 and 1845-46. During the next five years (1846-1851) it stood at about 85,000 acres, and rose to 88,000 acres in 1851-52. That is during the twenty-three years before the introduction of the revenue survey there was an increase in the area under tillage of 12,000 acres or 15 per cent. During the same twenty-three years (1829-1852) remissions varied considerably. In the first four years they rose from £1200 (Rs. 12,000) in 1829-30 to £1700 (Rs. 17,000) in 1832-33. In the next three years they were £300 (Rs. 3000). In the next four years they rose from £1200 (Rs. 12,000) in 1836-37 to £2500 (Rs. 25,000) in 1838-39 and again fell to £100 (Rs. 1000) in 1839-40. Between 1840 and 1848, except in 1841-42 when they were £1500 (Rs. 15,000), they varied from £200 to £500 (Rs. 2000 - 5000). In the remaining four years (1848-1852) they fell from £1800 (Rs. 18,000) in 1848-49 to £1100 (Rs. 11,000) in 1851-52. In the first four years collections fell from £5500 (Rs. 55,000) in 1829-30 to £4800 (Rs. 48,000) in 1832-33. In the next six years they fell from £6500 (Rs. 65,000) in 1838-39 to £5500 (Rs. 55,000) in 1838-39. In the next nine years, except 1841-42 when they were a little below £6500 (Rs. 65,000), they rose from £7000 (Rs. 70,000) in 1839-40 to £7700 (Rs. 77,000) in 1847-48. In 1848-49 they fell to £6300 (Rs. 63,000) and from that rose to £7200 (Rs. 72,000) in 1851-52. [Bom. Gov. Rev. Rec. 172 of 1853,169.]

Under the revenue survey settlement the 129 villages of this Khed group were arranged in five classes with highest dry-crop acre rates varying from 3s. 3d. (Rs. 1?) in the first class to 2s. (Re. 1) in the fifth class. The highest rate was applied to a group of villages lying along the Poona-Junnar road. These villages possessed superior advantages for the carriage of produce to Poona and also enjoyed a climate favourable to dry crops. The lower rates were for groups lying east of the Poona-Junnar road where the climate became drier and to the west where the moisture was excessive; the lowest rates were for the Sahyadri villages where *jvari* and *bajri* could not grow. The highest acre rates for rice land were fixed at 8s. (Rs. 4) in the villages near the Sahyadris, 7s. (Rs. 3½) for the next group, and 6s. (Rs. 3) for the group further east where the fall of rain was hardly enough for rice. There were 4425 acres of rice with an assessment of £720 (Rs. 7200), that is an average acre rate of 3s. 3d. (Rs. 1 ?). The area of garden tillage was small. The highest rates fixed for garden land were, 6s. (Rs. 3) for channel-watered or *patasthal* and 4s. (Rs. 2) for well-watered or *motasthal*. 851 acres of channel-watered land were assessed at £112 (Rs. 1120) and 676 acres of well-watered land at £128 (Rs. 1230). No change was made in the management of hill lands inaccessible to the plough. They continued to be let for cultivation on the billhook or *koyta* system. The following statement shows the effect of the survey:

Khed Settlement, 1852-53

CLASS.	VIL- LAGES.	FORMER				SURVEY.		
		1829-1852.			1851-52.	1851-52.		
		Dry-Crop, Rice and Garden.	<i>Dali</i> and Grass.	Total.		Dry-Crop and Rice.	Garden.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I	7	17,342	741	18,083	20,823	14,422	1379	18,801
	*2	4004	125	4129	4467	2591	63	2654
II	31	26,075	1355	27,430	33,602	23,188	653	23,841
III	18	9139	649	9788	11,850	10,909	160	11,069
IV	49	11,858	1054	12,012	13,867	12,612	98	12,710

V	22	2270	521	2791	2550	2104	--	2104
Total	129	70,688	4445	75,133	87,159	65,826	2363	68,179

*Of these one lapsed in 1844-45 and the other in 1848-49. Rev. Reo. 172 of 1863,109.

Khed Settlement, 1852-53—continued.

CLASS.	SURVEY.									
	Dry-Crop and Garden.		Rice.		Total.		<i>Dali and Grass Lands.</i>	Total.	Highest Dry-crop Acre Rate.	
	Acres.	Rs.	Acres.	Rs.	Acres	Rs.	Rs.	Rs.	Rs.	a
I	21,883	16,944	1	1	21,884	16,945	932	17,877	1	10
	5277	3411	--	--	5277	3411	163	3574		
II	43,197	27,105	135	199	43,332	27,304	1244	28,548	1	8
III	24,179	11,592	599	893	24,778	12,485	609	13,094	1	6
IV	48,402	16,186	2549	4283	50,951	20,469	1496	21,965	1	4
V	12,745	2206	1142	1822	13,887	4028	635	4663	1	0
Total	1,55,683	77,444	4426	7198	1,60,109	84,642	5079	89,721	--	

1853-54.

1853-54 was an unusually bad season. The south-west monsoon began with excessive rain followed by drought, relieved in some place by a few showers. Large sums had to be remitted. At Indapur the rupee price of Indian millet or *jvari* was the same as in the last year, about 112 pounds (56 *shers*). Over the whole district the tillage area rose from 1,316,767 to 1,368,430 acres and the collections fell from £80,072 (Rs. 8,00,720) to £72,476 (Rs. 7,24,760); £8294 (Rs. 82,940) or 10.2 per cent were remitted and £250 (Rs. 2500) left outstanding. [Bom. Gov. Rev. Rec. 17 of 1858, 10, 167, 200, 238. The details are:

Poona Tillage and Revenue, 1852-1854.

SUB-Division.	1852-53.				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	--	14	92	1,31,685
Indapur	99	--	134	--	1,10,179
Khed	187½	--	4257	--	96,379
Pabal	58	--	--	--	99,824
Purandhar	77½	--	996	1	1,06,664
Bhimthadi	73	--	1601	18	84,350
Haveli	89	--	276	341	99,308
Maval	182	--	--	--	72,332
Total	942	1,316,767	7278	452	8,00,721

continued..

SUB-Division.	1853-54.				
	Villages.	Tillage.	Remissions,	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	176	--	9639	3	1,18,764
Indapur	99	--	11,553	3	1,01,619
Khed	187½	--	14,096	--	87,314
Pabal	58	--	489	--	99,519
Purandhar	77½	--	836	--	1,00,938
Bhimthadi	73	---	5875	320	86,707
Haveli	90	--	10,772	2046	87,269

Maval	180	--	23,662	126	42,632
Total	941	136,8430	82,942	2498	7,24,762

SURVEY. Maval 1853-54.

In 1853-54 the survey settlement was introduced into the 180 Government villages of the Maval sub-division in the south-west, corner of the district. [Capt. Francis, Surv. Supt. 33 of 31st January 1854; Bom. Gov. Sel LXX.] Maval was bounded on the west by Thana, on the north by Khed, on the east by Haveli, and on the south by Bhor. The sub-division 'contained a main group of 102 villages called Maval, and to the south of the main group a minor group of 78 villages called Mulshi. In general features Maval was like the Sahyadri sub-divisions which had been Settled before. Except the range which was strengthened by the forts of Lohogad and Visapur the Maval hill ranges were not so large as those further north, and, except in the western Mulshi villages, the valleys were more open, broader, and leveller. Close to the Sahyadris the rainfall was very much heavier than in any other part of the sub-division. The chief products of the dry-crop or *jirayat* lands were *nachni*, *sava*, and *til* for the early harvest, and wheat and gram for the late harvest Small areas of *bajri* and *jvari* were grown in a few of the eastern villages. The black soil lands were suited only for late crops. Rice was the crop from which the landholders paid their revenue. Most of the rice went to Poona, a little went below the Sahyadris, and a still smaller share was kept for local retail sale at Varangaon Khandala, and other chief halting places along the Bombay-Poona road. The only manure was wood and grass ashes with which the rice nursery beds were covered. Mr. Pringle's settlement of the Maval villages had been a success. During the twenty-three years it had been in force not more than five per cent of remissions had been required. In the ten years ending 1852 the spread of tillage had been steady, and in 1852 it was rapid.

[The survey diagram for 178 Maval villages gives the following details for the twenty-three years since Mr. Pringle's settlement in 1830-31:

Maval Tillage and Revenue, 1830 - 1853.

YEAR.	DRY-CROP.			RICE.			TOTAL.		
	Tillage.	Remis-	Collections.	Tillage.	Remis-	Collec-	Tillage.	Remis-	Collect-

		sions.			sions.	tions.		sions.	ions.
	Acres.	Rs.	Rs.	Acres.	Rs.	Rs.	Acres.	Rs.	Rs.
1830-31	25,000	2000	16,500	11,000	3000	31,000	36,000	5000	47,500
1831-32	21,000	500	15,000	10,000	500	31,000	31,000	1000	46,000
1832-33	21,000	3000	11,000	10,000	5500	27,000	31,000	8500	38,000
1833-34	21,000	200	14,500	10,500	200	33,000	31,500	400	47,500
1834-35	23,000	200	15,000	10,500	200	33,000	33,500	400	48,000
1835-36	26,000	200	17,500	10,500	500	33,000	36,500	700	50,500
1836-37	25,500	3000	14,500	10,500	4000	28,500	36,000	7000	43,000
1837-38	24,500	3000	14,000	10,500	3500	29,000	35,000	6500	43,000
1838-39	24,000	3500	13,000	11,000	4000	29,500	35,000	7500	42,500
1839-40	24,500	3000	13,000	11,000	4000	31,000	35,500	7000	44,000
1840-41	24,000	1000	15,000	11,000	1500	32,500	35,000	2500	44,500
1841-42	23,000	2000	13,000	11,000	2500	31,500	34,000	4500	44,500
1842-43	23,500	500	15,000	11,500	1000	34,000	35,000	1500	49,000
1843-44	22,000	800	14,000	11,000	700	33,500	33,000	1500	47,500
1844-45	22,500	200	14,200	11,000	200	34,000	33,500	400	48,200
1845-46	23,500	500	14,500	11,500	500	34,500	35,000	1000	49,000

1846-47	24,000	200	15,000	11,500	500	34,500	35,500	700	49,500
1847-48	25,000	300	15,500	11,700	300	35,500	36,700	600	51,000
1848-49	24,400	300	15,500	11,800	300	35,500	36,200	600	51,000
1849-50	25,500	200	16,500	11,000	300	35,500	36,500	500	52,000
1850-51	27,000	300	17,500	11,800	500	36,000	38,800	800	53,500
1851-52	28,000	200	21,000	11,500	200	36,200	39,500	400	57,200
1852-53	33,400	100	22,000	11,800	100	36,300	45,200	200	58,300

]

As in several other parts of the Presidency, where light rates were in force, the light assessment had brought with it a plague of Marwari Vanis, keen calculators, who did not make advances to the people unless they knew that they could make money out of the land if it was thrown on their hands. The villages along the Bombay road were filled with Marwaris who had managed to get the great body of the people deep in their books. The people were more oppressed with debt in that part of the mamlatdars division than in any other sub-division of the collectorate. A Marwari or a Marwari's agent generally lurked about the landholder's stackyard when any thrashing was going on, ready to step in and carry off the bulk of the produce. Some change in the relations between the landholders and the moneylenders was urgently wanted. In the Mulshi group though the rates were higher, there were no Marwaris and the people were much better off. [Captain Francis, 31st January 1854, Bom. Gov. Sel. LXX. 6-7.] Government did not agree with Captain Francis in explaining the impoverished state of the Maval landholders by the excessive exactions of moneylending Marwaris. [Govt. Letter 3588 of 28th Augt. 1855, Bom. Gov. Sel. LXX. 64-65.] In the west the rainfall was too heavy for dry-crops; the best dry-crops were grown in the eastern villages. Captain Francis proposed four classes of dry-crop land. The first class with an acre Tate of 3s. (Rs. 1½) included the villages in the extreme, east of the Maval group touching on Khed; [Capt. Francis afterwards (246, 10th July 1854) did away this first class by lowering the rate to 2g. 9d. (Rs. 1?). Bom.

Gov. Sel LXX. 55-56.] the second class rate of 2s. 9d. (Rs. 1?) was applied to the group of villages lying immediately west of the first class villages; the third class rate of 2s. 6d. (Rs. 1¼) was applied to a group west of the second class villages; and the fourth class rate of 2s. (Rs. 1) was applied to the villages lying along the crest of the Sahyadris and on the sides of the hills. The villages along and at a short distance from the Bombay-Poona road made considerable profits from their uplands or *mals* by spiling grass to the numerous cart and pack bullocks that were daily halting at the different stages on the road. For this reason Khandala and some other villages near the Sahyadris were brought into the third instead of the fourth class.

As abundant rainfall is one of the most important elements in successful rice growing, it might be supposed that rice lands would be valuable in proportion to their nearness to the Sahyadris. Local inquiry showed that this was not the case. The best rice lands were not in the Sahyadri villages, nor were the least productive rice lands in the most easterly villages. Both in the main Maval group and in the smaller Mulshi group the best rice lands were near the middle of the tract.

[Bom. Gov. Sel. LXX. 5.] In classing the rice lands, with Captain Wingate's approval, Captain Francis adopted the system introduced by Mr. Fraser Tytler into the Nasik and Ahmadnagar hilly rice lands. The chief change introduced was in basing the valuation on the kind of rice grown and not on the character of the embankment. [Bom. Gov. Sel. LXX. 3; Nasik Statistical Account, XVI. 233-234.] Under these principles the rice lands were arranged under four classes with acre rates of 9s. 8s. 1s. and 6s. (Rs. 4½, Rs. 4, Rs. 3½, and Rs. 3). In distributing these rates the rate of 9s. (Rs. 4½) was applied to some villages of the Mulshi group whose dry-crop lands belonged to the first and second classes. The rates of 8s. and 7s. (Rs. 4 and Rs. 3½) were applied to the Mulshi villages whose dry-crop lands brought them into the third and fourth classes and to all villages of the main Maval group whose dry-crop lands brought them into the first second and third classes. The rate of 6s. (Rs. 3) was applied to all the fourth class dry-crop villages in the main Maval group.

Compared with the twenty-three years ending 1852-53 the survey rental of the land held for tillage at the time of the survey showed a rise from £4832 (Rs. 48,320) to £5289 (Rs. 52,890); compared with the ten years ending 1852-53 it showed a rise from £5191 (Rs. 51,910) to £5289 (Rs. 52,890); and compared with the year 1852-53 it showed a fall from £5823 (Rs. 58,230) to £5289 (Rs. 52,890).

[These figures are for 178 out of the 180 villages of this survey group. Including two villages which came into British possession in 1848, the

survey rental when compared with the previous year shows a reduction from Rs. 59,358 to Rs. 53,947. Bom. Gov. Sel. LXX. 9.] The survey rental on the entire arable land amounted to £7056 (Rs. 70,560). There was therefore a considerable margin of waste from the cultivation of which the survey reduction might be made good. The following statement gives the details of this settlement:

Maval Settlement, 1853-54.

DIVISION.	Vil-	Class.	DRY-CROP.		RICE.		TOTAL.		Grazing and <i>Dali</i> .	Total
	lages.		Area.	Rental.	Area.	Rental.	Area.	Rental.		
			Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Rs.	Rs.
Mamlatdar's division	9	I	11,151	4658	1134	2176	12,285	6834	325	7159
	51	II	27,298	14,999	4163	9232	31,461	24,231	1312	25,543
	24	III	9824	3757	2187	5342	12,011	9099	720	9819
	16	IV	5959	1220	1178	2912	7137	4132	766	4898
Mulshi petty division	4	I	3946	1848	755	2130	4701	3978	268	4246
	13	II	4286	1735	1695	4687	5981	6422	835	6767
	29	III	3506	1187	2638	8804	6144	9991	667	10,658
	32	IV	10,836	1927	1552	3950	12,388	6877	899	6776
Total	178	--	76,806	31,331	15,302	39,233	92,108	70,564	5292	75,856

The effect of lowering the first class dry-crop rates from 3s. (Rs. 1½) to 2s. 9d. (Rs. 1?) which has been noticed above, was to reduce these totals by £39 (Rs. 390) in the main Maval group and by £15 (Rs. 150) in the Mulshi group. [Survey Superintendent, 33 of 31st January 1854 and 246 of 10th July 1854; Rev. Comr. 2542 of 14th Augt. 1854 and 576 of 23rd February 1855; Gov. Letter 3588 of 28th Augt. 1855. Bom. Gov. Sel. LXX. 1-66.]

1854-1866.

The eighteen years ending 1854 was a period of little improvement. In Indapur and Bhimthadi the people were few and poor. Over almost the whole of the district about half of the eighteen years, 1838,1840, 1841,1844,1845,1850,1851, and 1853, were bad seasons; and except

when its price was raised by a general failure of crops grain was ruinously cheap, the rupee price of Indian millet varying from 30 to 144 and averaging 104 pounds. [Bom. Gov. Sel, CVII. 71.] In spite of these obstacles the tillage area rose from 895,438 acres in 882 villages in 1839-40 to 1,368,430 acres in 941 villages in 1853-54, and the collections from £63,612 (Rs. 6,36,120) in 1837-38 to £72,476 (Rs. 7,24,760) in 1853-54. The turning point was passed about 1852 and there was a marked and steady improvement in the next twelve years 1854-1866. Towards the close of this period, owing to the continuation of the American war and several years of short crops, produce prices were higher than they had been since the beginning of British rule, *Jvari* sold at Indapur at about 26 to 36 pounds (13-18 *shers*) the rupee in 1862-1866 in place of about 48 pounds (24 *shers*) in 1818 88 pounds (44 *shers*) in 1826, 96 pounds (48 *shers*) in 1835, and 112 pounds (56 *shers*) in 1854. During the twelve years ending 1866 the tillage area rose from 1,368,430 acres in 941 villages in 1853-54 to 1,743,179 in 988 villages in 1865-66; and collections from £72,476 to £105,521 (Rs. 7,24,760 - Rs. 10,55,210). In Indapur, which before 1846 was one of the most distressed subdivisions, collections showed an increase from £6,522 (Rs. 65,220) between 1836 and 1846 to £8,305 (Rs. 83,050) between 1856 and 1866 or an increase of 27 per cent, the average remissions were reduced from £1222 (Rs. 12,220) to 12s. (Rs. 6), and during the ten years ending 1865-66 there was hardly any waste. The yearly details are:

1854-55.

In 1854-55 in the plain or *desh* part of the collectorate much distress was caused by the late setting in of the rains. In the rice-growing tracts along the Sahyadris, where failure of rain would have caused serious distress, the usual showers fell during the whole of June and July; on the whole 1854 was a favourable season. In December some damage had been done to the crops by hailstorms in parts of Junnar and Purandhar. At the beginning of the season many cattle died of starvation in consequence of the scarcity of fodder. In August 1854 the Revenue Commissioner sanctioned the grant of advances to landholders, and they were enabled to renew their stock of cattle and to keep up their cultivation which must otherwise have fallen. Of £1385 (Rs. 13,850) the total sum advanced, £1143 (Rs. 11,430) were for cattle and £242 (Rs. 2,420) were for water works. At Indapur the rupee price of Indian millet or *jvari* rose from about 112 to 58 pounds (56-29 *shers*). Over the whole district the tillage area rose from 1,368,430 to 1,395,080 acres, and the collections from £72,476 to £81,486 (Rs. 7,24,760-Rs. 8,14,860); £612 (Rs. 6,120) or 074 per

cent were remitted and £24 (Rs. 240) left outstanding. [Gov. Rev. Rec. 17 of 1859, 1325, 1367, 1432, 1433, 1459, 1461, 1484, 1522, 1527. The details are:

Poona Tillage and Revenue, 1853-1855.

SUB-DIVISION.	1853-54.					1854-55.				
	Villages.	Tillage.	Remis-sions.	Out-stand-ings.	Collec-tions.	Villages.	Tillage.	Remis-sions.	Out-stand-ings.	
		Acres.	Rs.	Rs.	Rs.	Re.	Acres.	Rs.	Rs.	
Shivner	176	205,147	9659	31	1,18,764	176	200,851	1246	--	1
Indapur Khed	99	295,081	11,553	31	1,01,619	99	297,106	11	66	1
	187½	164,852	14,096	--	87,314	187½	157,931	212	--	
Pabal	58	153,579	489	--	99,519	59	158,795	14	--	1
Purandhar	77½	217,924	6836	--	1,00,938	80½	223,748	265	--	1
Bhimthadi	73	167,773	5875	320	86,707	74	180,345	2469	--	
Haveli	90	108,206	10,772	2046	87,269	90	113,849	121	178	
Maval	180	55,868	23,662	126	42,632	181	62,455	1785	--	
Total	941	1,368,430	82,942	2498	7,24,762	947	1,395,080	6123	244	8

Of 1,395,080 acres the total area under tillage, 439,125 acres or 31.5 per cent were under *jvari*, 447,153 or 32 per cent under *bajri*, 74,503 or 53 per cent under wheat, 64,031 or 4.5 per cent under gram, 60,167 or 4 3 per cent under *math*, 37,941 or 2.7 per cent under *kardai*, 18,606 or 1.3 per cent under sugarcane, 14,488 or 1 per cent under rice, 1597 under *udid*, 4123 under cotton, 229 under hemp, 166 under linseed, and 232,951 or 16.7 per cent under miscellaneous crops.]

1865-56.

In 1855-56 twenty-three villages lapsed and raised the number of Government villages from 947 to 970 and reduced the number of alienated villages from 247 to 224. Rain began in the month of June and continued to fall seasonably until the middle of July. After this

none fell in Indapur and Bhimthadi until the end of August, and the other sub-divisions had little or no rain till about the middle of September. A favourable change took place after the 20th of September. There were several heavy falls of rain through nearly every part of the collectorate, and the crops which had not suffered beyond recovery revived. On the whole the season of 1855 was fair. At Indapur the rupee price of Indian millet or *jvari* fell from about 58 to 64 pounds (29-32 *shers*). Over the whole district the tillage area rose from 1,395,080 acres in 947 villages to 1,447,006 acres in 970 villages, and the collections from £81,486 to £85,429 (Rs.8,14,860-Rs.8,54,290); £1032 (Rs.40,320) or 1 19 per cent were remitted, and £41 (Rs. 410) left outstanding. [Bom. Gov. Rev. Rec. 15 of 1860, 4-6, 29, 32, 56. The details are:

Poona Tillage and Revenue, 1854-1856.

SUB-DIVISION.	1851-55.					1855-66.				
	Villages.	Tillage.	Remis-sions.	Out-stand-ings.	Collec-tions.	Villages.	Tillage.	Remis-sions-	Out-stand-ings.	Collec-tions.
		Acres.	Rs.	Rs.	Rs.		Acres.	Rs.	Rs.	Rs.
Shivner	176	200,851	1246	--	1,27,324	177	202,717	231	--	1,30,468
Indapur	99	297,106	11	66	1,13,566	99	301,890	27	--	1,15,094
Khed	187½	157,931	212	--	99,813	190½	157,554	859	--	1,00,118
Pabal	59	158,795	14	--	1,03,847	59	161,999	--	--	1,05,980
Purandhar	80½	223,748	265	--	1,08,826	98½	248,174	3460	--	1,32,724
Bhimthadi	74	180,345	2469	--	94,927	74	198,000	2641	413	1,02,185
Haveli	90	118,849	121	178	99,857	91	114,135	1231	--	99,235
Maval	181	62,455	1785	--	66,708	181	63,087	1871	--	68,538
Total	947	1,396,080	6123	244	8,14,863	970	1,447,006	10,320	413	8,54,292

Of the total area under tillage 86 per cent were under *jvari* and 27 under *bajri*.]

1856-57.

In 1856 general but slight rain fell early in June. From the end of June till late in July the fall was very slight and partial. During early August rain fell seasonably everywhere in the collectorate. But for the rest of the season it was partial and scanty. Considerable and general failure resulted in some parts of the district. On the whole the season was below the average. At Indapur the rupee price of Indian millet or *jvari* was the same as in 1855-56 about 64 pounds (32 *shirs*). Over the whole district the tillage area rose from 1,447,006 to 1,534,473 acres and the collections from £85,429 to £87,928 (Rs. 8,54,290-Rs. 8,79,280); £1649 (Rs. 16,490) or 1.8 per cent were remitted and £35 (Rs. 350) left outstanding. [Bom. Gov. Rev. Rce. 15 of 1860, 201, 927, 230, 362. The details are:

Poona Tillage and Revenue, 1855 -1857.

SUB-DIVISION.	1855-56.					1856-57.				
	Vil-lages.	Tillage.	Remis-sions.	Out-stand-ings.	Collec-tions.	Villages.	Tillage.	Remis-sions.	Out-stand-ings.	Collec-tions.
		Acres.	Rs.	Rs.	Rs.		Acres.	Rs.	Rs.	Rs.
Shivner	177	202,717	231	--	1,30,468	178	218,331	3159	91	1,33,069
Indapur	99	301,390	27	--	1,15,094	99	304,743	176	5	1,16,099
Khad	190½	157,554	859	--	1,00,118	190½	168,120	4316	113	1,00,880
Pabal	59	161,999	--	--	1,05,930	59	168,378	1273	--	1,08,001
Purandhar	98½	248,174	3460	--	1,32,724	99½	274,513	3208	113	1,35,178
Bhlmthadi	74	198,000	2641	413	1,02,185	74	217,913	2233	--	1,10,513
Haveli	91	114,135	1231	--	99,235	81	116,889	169	29	1,05,317
Maval	181	63,037	1871	--	68,538	182	66,586	1955	--	70,225
Total	970	1,447,006	10,320	413	8,54,292	973	1,534,473.	16,489	351	8,79,282

Of the total area under tillage 30 per cent were under *jvari* and 331 under *bajri*.]

In October 1857 Mr. Leighton, the first assistant collector who had charge of Khed Haveli and Maval, wrote [Bom. Gov. Rev. Rec. 15 of 1860, 315-320.] that the object of improving the state of the people

by lowering the Government demand had been defeated by the extortionate demands of moneylenders. He thought that a law should be passed to prevent the levy of extortionate interest. He knew the objections which were urged against usury laws in England. He was satisfied that these objections did not apply to the state of affairs in Western Poona. The borrowers were poor ignorant and simple, the lenders were sharp unscrupulous strangers. Mr. Leighton thought that no bond passed by a landholder should be binding unless it was registered in an assistant collector's court; that the rate of interest should be limited by law and that all holders indebted beyond a certain amount should be obliged to give up their land. These measures would at first be unpopular; in time the people would see that they were for their good. Until indebtedness was checked it was hopeless to attempt to improve the state of the people. Native officers anxious to please said the 'people were much better off since the revised survey had come in. He saw no sign of improvement. All that Government had sacrificed had gone to the Marwari. Moreover now that a light assessment had made land valuable, every year numbers of fields passed from the husbandman to the moneylender whose slave he became.

1857-58.

Except in Indapur and Bhimthadi 1857 was on the whole a favourable season. Though there were considerable failures in various parts of Indapur and Bhimthadi the revenue had been collected without undue stress. At Indapur the rupee price of Indian millet fell from about 64 to 78 pounds (32-39 *shers*). Over the whole district the tillage area rose from 1,534,473 to 1,566,231 acres and the collections from £87,928 to £91,919 (Rs. 8,79,280-Rs. 9,19,190), £291 (Rs. 2910) or 0-31 per cent were remitted, and £61 (Rs. 610) left outstanding. [Bom. Gov. Rev. Rec. 17 of 1851, 5, 37, 40, 68. The details are:

Poona Tillage and Revenue, 1856-1858.

SUB-DIVISION.	1856-57.				
	Villages.	Tillage.	Re-missions.	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	178	218,331	3169	91	1,33,069

Indapur	99	304,743	176	5	1,16,099
Khed	190½	168,120	4316	113	1,00,880
Pabal	59	168,378	1273	--	1,08,001
Purandhar	99½	274,513	3208	113	1,35,178
Bhimthadi	74	217,913	2233	--	1,10,513
Haveli	91	115,889	169	29	1,05,317
Maval	182	66,586	1955	--	70,225
Total	973	1,534,473	16,489	351	8,79,282

continued..

SUB-DIVISION.	1857-58.				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections
		Acres.	Rs.	Rs.	Rs.
Shivner	178	224,697	--	--	1,37,719
Indapur	99	305,100	20	--	1,16,256
Khed	194½	178,926	567	--	1,10,279
Pabal	59	167,898	--	--	1,09,693
Purandhar	100½	282,833	20	--	1,37,633
Bhimthadi	74	217,687	26	--	1,15,438
Haveli	92	117,493	--	600	1,16,848
Maval	184	71,597	2274	7	75,325
Total	981	1,566,231	2907	607	9,19,191

Of the whole area under tillage 36 per cent were under *jvari* and 29 per cent under *bajri*.]

1858-59.

The season of 1858 was on the whole favourable. Rain began early in June, visiting the districts generally but slightly. It afterwards fell

seasonably up to mid-July. From the middle to the end of July there was abundant rain throughout the collectorate, except in Indapur, Supa, and a few Tillages of Pabal and Bhimthadi. Daring August the fall was partial but after August the supply was general and satisfactory. At Indapur the rupce price of Indian millet or *jvari* rose from about 78 to 64 pounds (39-82 *shers*). Over the whole district tillage rose from 1,566,231 to 1,598,885 acres and collections from £91,919 to £93,305 (Rs. 9,19,190-Rs. 9,33,050), £243 (Rs. 2430) or 0-25 per cent were remitted, and £9 (Rs. 90) left outstanding. [Bom. Gov. Rev, Reo. 17 of 1861, 174, 210, 214, 242. The details are of the whole area under tillage 27.4 per cent were under *jvari* and 36 per cent under *bajri*:

Poona Tillage and Revenue, 1857-1859.

SUB-DIVISION.	1857-58.				
	Villages.	Tillage.	Remissions.	Out-standings.	Collections.
		Acres.	Rs.	Rs.	Rs.
Shivner	178	224,697	--	--	1,37,719
Indapur	99	305,100	20	--	1,16,256
Khed	194½	178,926	567	--	1,10,279
Pabal	59	167,898	--	--	1,09,693
Purandhar	100½	282,833	20	--	1,37,633
Bhimthadi	74	217,687	26	--	1,15,438
Haveli	92	117,493	--	600	1,16,848
Maval	184	71,597	2274	7	75,325
Total	981	1,566,231	2907	607	9,19,191

continued..

SUB-DIVISION.	1858-59.				
	Villages	Tillage.	Remissions.	Out-	Collections.

				standings.	
		Acres.	Rs.	Rs,	Rs.
Shivner	178	228,481	--	--	1,39,010
Indapur	99	306,008	--	--	1,16,458
Khed	194½	186,433	330	--	1,12,869
Pabal	69	173,224	--	--	1,11,710
Purandhar	102½	289,022	284	--	1,40,466
Bhimthadi	74	220,806	37	3	1,16,866
Haveli	92	120,536	181	8	1,21,056
Maval	183	74,375	1595	90	74,611
Total	982	1,598,885	2427	93	9,33,046

Of the whole area under tillage 27.4 per cent were under *jvari* and 36 per cent under *bajri*.]

1859-60.

The season of 1859 was an average but an unhealthy season. Tillage rose from 1,598,885 to 1,654,399 acres and collections from £93,305 to £95,663 (Rs. 9,33,050 - Rs. 9,56,630), £36 (Rs. 360) were remitted, and £1 (Rs. 10) left outstanding. [Bom. Rev. Rec. 13 of 1862-64, 103, 152, 176,265, 273, 308.] At Indapur the rupee price of Indian millet fell from about 64 to 78 pounds (32-39 *shers*). In the opinion of the Deccan Riots Commissioners [Deccan Riots Commissioner's Report, 1875 para 51 page 35.] not with standing the pressure of debt and the hardships which the laws inflicted on borrowers, about 1860 the landholders of Poona were better off than they had been for years. The conditions of agriculture had been favourable. For nearly twenty years most of the district had enjoyed a fixed and moderate assessment, large tracts of waste had been brought under tillage, ordinary communications and means of transport were improved, and the railway had been brought within easy reach. The construction of the railway had poured into the district a sum of not less than £200,000 (20 *lakhs* of rupees) in wages of transport and labour. Above all a series of fair seasons had richly rewarded the husbandman's labours. Although the lender might have recourse to the civil court, there was a possibility of the borrower being able to borrow from another lender in order to pay him and the

court would give time; if a decree passed against the landholder his stock and field tools were safe, and his land was not in real danger. He might be imprisoned until he signed a new bond, but he was not likely to be pauperised.

1860-61.

In 1860-61 the rainfall was partial but timely, and the season was on the whole favourable. [Rev. Comr. S.D.42 of 9th January 1861, Bom. Gov. Rev. Rec. 90 of 1861, 177.] Tillage rose from 1,654,399 to 1,664,802 acres and collections from £95,663 to £96,618 (Rs. 9,56,630 to Rs. 9,66,180), £24 (Rs. 240) were remitted, and £5 (Rs. 50) left outstanding. At Indapur the rupee price of Indian millet rose from about 78 to 66 pounds (39-33 *shers*).

1861-61.

In 1861-62 the rainfall was 23 inches at Indapur, 47 at Poona, 35 at Junnar, and 12 at Khadkala. [Indapur is 90 miles from the crest of the Sahyadris, Poona 32, Junnar 12, and Khadkala in Maval 11.] The season was favourable and healthy. [Rev. Comr. 247 of 1st February 1862, Bom. Gov. Rev. Rec. 235 of 1862-64, 199.] Tillage rose from 1,664,802 to 1,691,352 acres and collections from £96,618 to £99,933 (Rs. 9,66,180-Rs. 9,99,380), 8s. (Rs. 4) were remitted, and £330 (Rs. 3300) left outstanding. At Indapur the rupee price of Indian millet rose from about 66 to 54 pounds (33-27 *shers*).

1862-63.

In 1862-63 a scarcity of rain caused much damage to the early harvest; but an abundant fall in September and October gave a rich late crop. The rainfall was 12 inches at Indapur, 27 at Poona, 10 at Junnar, and 63 at Khadkala. Public health was good. [Rev. Comr. 598 of 18th March 1863, Bom. Gov. Rev. Rec. 235 of 1862-64, 223.] Tillage rose from 1,691,352 to 1,696,097 acres, collections fell from £99,933 to £99,699 (Rs. 9,99,330 - Rs. 9,96,990), £42 (Rs. 420) were remitted, and £42 (Rs. 420) left outstanding. At Indapur the rupee price of Indian millet rose from about 54 to 32 pounds (27-16 *shers*).

1863-64.

In 1863-64 a scanty early fall was, except in Indapur and Bhimthadi, followed by a satisfactory late supply. So serious was the failure of rain in Indapur and Bhimthadi, that relief works had to be opened. The

rainfall was 3 inches at Indapur, 23 at Poona, 17 at Junnar, and 95 at Khadkala. Cholera was prevalent particularly in the city of Poona in November after the Alandi fair. [Rev. Comr. S. D. 475 of 6th February 1864, Rev. Rec. 235 of 1862-64, 247.] Tillage rose from 1,696,097 to 1,720,335 acres, collections fell from £99,699 to £98,879 (Rs. 9,96,990 -Rs. 9,88,790), £147 (Rs. 1470) were remitted, and £3438 (Rs. 34,380) left outstanding. At Indapur the rupee price of Indian millet rose from about 32 to 26 pounds (16-13 *shers*).

1864-65.

In 1864-65 the rainfall was 10 inches at Indapur, 17 at Poona, 15 at Junnar, and 50 at Khadkala. The season was on the whole unfavourable though better than the year before, and public health was good. [The Collector, 3027 of 10th December 1864.] Tillage rose from 1,720,335 to 1,736,582 acres and collections from £98,879 to £100,641 (Rs. 9,88,790-Rs. 10,06,410), £23 (Rs. 230) were remitted, and £1536 (Rs. 15,360) left outstanding. At Indapur the rupee price of Indian millet fell from about 26 to 32 pounds (13-16 *shers*).

1865-66.

In 1865-66 the rainfall though not seasonable, was sufficient, and the early crops were good except in parts of the east. The late harvest was also good except in a few villages of Purandhar, Bhimthadi, and Indapur. On the whole the season was more favourable than any of the three previous years. The rainfall was 6 inches at Indapur, 31 at Poona, 20 at Junnar, and 65 at Khadkala. Public health was good. [Rev. Comr. S. D, 530 of 16th February 1866, Bom. Gov, Rev. Rec. 75 of 1866, 50.] Tillage rose from 1,736,582 to 1,743,179 acres and collections from £100,641 to £105,521 (Rs. 10,06,410-Rs. 10,55,210), £13 (Rs. 130) were remitted, and £1256 (Rs. 12,560) left outstanding. At Indapur the rupee price of Indian millet fell from about 32 to 36 pounds (16-18 *shers*).

1866-67.

In 1866-67 only in Maval was the rainfall seasonable. In Shivner, Khed, and Haveli, in some parts of Pabal, and in many parts of Purandhar, though the rainfall was short and ill-timed, the crops were not much below the average. In Bhimthadi and Indapur and in the rest of Pabal and Purandhar the rainfall was so short, that both the early and late crops almost entirely failed. The rainfall was 5 inches at Indapur, 1!) at Poona, 24 at Junnar, and 66 at Khadkala. Public health

was on the whole good; and, except in some villages of Khed, cattle were free from disease. [Rev. Comr. S. D. 824 of 5th March 1867.] Tillage rose from 1,743,179 to 1,784,390 acres and collections fell from £105,521 to £93,730 (Rs. 10,55,210 - Rs. 9,37,300), £8004 (Rs. 80,040) were remitted, and £7177 (Rs. 71,770) left outstanding. At Indapur the rupee price of Indian millet fell from about 36 to 46 pounds (18-23 *shers*). In 1866-67 relief works were opened and more than 108,000 poor landholders and labourers were employed in Indapur, Bhimthadi, and Sirur. Up to the 10th of November 1867 £1876 (Rs. 18,760) were expended on relief works. [INDAPUR, 32 miles executed, 69 remained to be executed on 10th November 1867, amount expended Rs. 8340. BHIMTHADI, 21 miles executed, 13 remained, amount spent Rs. 9420. SIRUR, 184 miles executed, and amount spent Rs. 970. Cost of tools and plant Rs. 30, Total Rs. 18,760.] Considerable remissions were also granted. The help given by Government by grants, remissions, and postponements, was of the greatest service to the people, enabling them to tide over their difficulties and start afresh. [Mr. Oliphant, Collector, 3990 of 12th December 1867.]

[REVISION SURVEY, 1867-1884.](#)

In 1867 the thirty years' leases of the original survey settlement began to fall in and arrangements were made for a revision survey. The revision survey was begun in Indapur in 1867. Since then, except during the 1876 and 1877 famine when survey operations were at a stand, the revision has been gradually extended as the leases fell in. Now (1st July 1884) all, except 162 Haveli villages and the Khed and Maval sub-divisions, is completed. The result of the revision has been an increase in the assessment from £61,161 to £81,683 (Rs. 6,11,610-Rs. 8,16,830) or 34 per cent. The details are:

Poona Revision Settlement, 1867-1884.

YEAR.	Group.	Villages.	Survey Settlement.				
			Former.	Revised.	Increased.	Amended.	Increased
			Rs.	Rs.	Per Cent	Rs.	Per Cent
1866-67	Indapur	78	81,184	1,24,506	53	1,11,866	38

1871-72	Bhimthaii	48	74,222	1,28,971	73	1,03,982	40
1872-73	Pabal	59	1,02,228	1,51,511	48	1,39,479	36
1872-73	Haveli	83	80,965	1,33,794	65	1,13,773	41
1873-74	Supa	39	57,461	81,713	42	72,303	26
1879-80	Purandhar	17	18,733	28,617	52	28,617	52
1879-80	Purandhar	18	18,486	25,631	39	25,631	39
1883-84	Sirur	37	57,831	72,005	24	72,005	24
1884-85	Junnar	142	1,20,500	1,49,172	23	1,49,172	23
	Total	521	6,11,610	8,95,920	46	8,16,828	34

REVISION SURVEY.

Indapur, 1866-67.

An examination of the history of the Indapur villages during the survey lease satisfied Colonel Francis that between the cheapness of grain and the occurrence of bad seasons the original rates continued to 1846 as high as the people could afford to pay. [Bom. Gov. Sel. CVII. 37.] During the second period of ten years (1846-1856) the average yearly collections increased but little; at the same time a decline in remissions showed that the landholders were better off than before. During the next or last ten years of the survey lease (1856-1866) the whole subdivision of Indapur may be said to have been regularly under tillage, the highest return of arable waste in any year being only 1176 acres. [In 1866 only 930- acres were under the head of waste. This total included some tracts of assessed grazing or *gayran* made over to the villagers as free grazing but which, as they bore an assessment, were included in the arable waste Even with this undue increase the arable waste bore the insignificant proportion of one-third per cent to the total arable area of the sub-division. Bom. Gov. Sel. CVII. 38.] The revenue returns for this period were perhaps even more satisfactory. Of £83,054 (Rs. 8,30,540) the total revenue demand for these ten years, only £6 (Rs. 60) had to be remitted. [Bom. Gov. Sel. CVII. 21, 39. The details are:

Indapur Revenue, 1826- 1866.

YEAR.	Settlement.	Remissions.	Outstandings.	Collections.	Increase.	
<i>Former.</i>	Rs.	Rs.	Rs.	Rs.	Rs.	Per Cent.
1826- 1836	76,930	23,200	13,474	40,256	--	--
Survey.						
1836-1846	77,443	12,223	--	65,220	24,964	62
1846-1856 (a)	77,919	865	--	77,054	36,798	91
1856-1866 (b)	88,054	6	--	83,048	42,792	106
1836-1866	79,472	4365	--	75,107	34,851	86

(a) & (b) Fire and six per cent respectively should be deducted from the revenues of these periods as a set-off for the Collections from two lapsed villages not included in the ten years' average preceding the settlement. Bom. GOV. Sel. CVII. 39.]

Besides by the moderateness of the assessment, during the survey lease, Indapur had been enriched by the introduction of carts; by the making of roads; and, in 1862, by the opening of the Peninsula railway through its northern villages. Till 1852-53 produce prices continued low or uncertain. In that year Indian millet was selling at about 112 pounds (56 *shers*) the rupee. By 1855-56 it had risen to about 64 pounds (32 *shers*). From that it remained pretty steady till 1862-63 when it rose to about 32 pounds (16 *shers*) and continued at about thirty-two pounds till 1867. [Bom. Gov. Sel. CVII. 49.] The increase of wealth among the Indapur landholders during the survey lease was shown by the sinking of 625 new wells and the repairing of 184 old wells which together might be estimated to represent an outlay of £30,000 (Rs. 3,00,000). [Of the 625 new wells 291 were sunk during the six years ending 1866. Bom. Gov. Sel. CVII. 50-51.] During the same time fifty-nine village offices or *chavdis* had been built at a cost of £1342 (Rs. 13,420), and twenty-seven resthouses at a cost of £1284 (Rs. 12,840). Of this whole outlay Government had paid £451 (Rs. 4510) and the people £2175 (Rs. 21,750). At the beginning of the survey lease land had no sale value. At its close, an examination of a number of sales satisfied Colonel Francis that the land was on an average worth seventeen years' purchase that is a total sale value of about £138,000 (Rs. 13,80,000). [Bom. Gov. Sel. CVII. 53. The following sales are quoted by Colonel Francis:

Indapur Land Sales. 1865 -1866.

VILLAGES.	Sales.	Area Sold.	Assessment.	Price.	Years' Purchase.
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		A.	g.	Rs.	a.	Rs.	
Indapur	11	341	2	83	11	1948	23
Gagargaon	1	29	27	4	10	200	42
Pimpri Khurd	2	41	21	5	10	175	31
Dauz	5	74	4	22	1	470	21
Ponavri	1	32	39	12	6	199	16
Udhat	1	11	24	5	13	160	27
Palasdev	4	108	39	54	11	630½	11
Bigvan	2	23	37	6	10	20	3
Kalas	2	78	31	22	6	150	7
Redni	1	30	38	7	12	100	13
Nirvangi	1	32	6	12	1	800	66
Bavda	3	74	35	28	8	275	10
Bhat Nimbgaon	1	8	3	7	14	75	9
Varkhuta Budrukh	2	69	32	16	7	115	7
Gopi	2	22	4	8	7	550	64
Sarati	1	50	39	28	11	300	10
A'goli	2	35	7	15	15	128	8
Nimbgaon Ketki	1	26	31	24	11	200	8
Ajota	2	71	31	18	4	300	16
Madanvadi	1	25	32	9	11	12½	1
Rui	1	21	22	4	1	40	10
Babulgaon	1	11	6	4	8	50	11
Total	48	1223	30	404	12	6898	17

Bom. Gov. Sel. CVII. 52. A. stands for acres and g. for *gunthas* 40 of which make an acre.]

During the thirty years of the survey lease population increased from 40,179 to 52830 or 31 per cent, farm bullocks from 17,673 to 20,976 or 19 per cent, carts from 291 to 1165 or 300 per cent, and ploughs from 1454 to 1820 or 25 per cent. [The addition of 19 per cent under bullocks is also small compared with the spread of tillage. The season in which the enumeration was made was very unfavourable in the Kalas petty division of Indapur and many cattle had been sent to other parts to graze. A good many had been sold for want of fodder. Bom. Gov. Sel. CVII. 54.] Cattle other than farm bullocks showed a decrease from 27,002 to 24,565 or 9 per cent. Because of inaccuracies in the former measurements, and still more from changes made afterwards when boundary marks were fixed, it was found necessary to resurvey the whole tract. In order that it might afterwards be of use in the Trigonometrical Survey the traverse system was adopted. [Bom. Gov. Sel. CVII. 57- 62. In twenty survey numbers of two to thirty-five acres the error in Mr. Pringle's measurements was found to vary from one to ninety-four per cent. The details are.

Indapur Survey Measurements. 1826 and 1866.

SURVEY NUMBERS.	Area according to				Difference.		SURVEY NUMBERS.		Area according to				Difference.		
	Mr. Pringle's Survey.		Present Survey.		In Area.	Per Cent.			Mr. Pringle's Survey.		Present Survey.		In Area.	Per Cent.	
	A.	g.	A.	g.	A.	g.			A.	g.	A.	g.	A.	g.	
1	9	22	8	11	1	11	13	11	17	3	16	38	0	6	1
2	25	0	35	4	10	4	40	12	9	22	10	6	0	24	6
3	16	33	18	7	1	14	8	13	13	17	9	6	4	11	32
4	13	8	16	30	3	22	27	14	17	20	18	39	1	19	8
5	20	34	24	18	3	24	17	15	22	2	16	12	5	30	24
6	1	38	2	11	0	13	16	16	16	8	30	25	14	17	89
7	2	36	2	38	0	2	2	17	29	26	36	17	6	31	23
8	3	37	4	6	0	9	6	18	35	19	44	39	9	20	27
9	2	30	8	24	0	34	31	19	9	5	17	27	8	22	94
10	13	14	14	0	0	26	5	20	35	10	30	0	5	10	15

The result of the survey was to show in the whole area an error of only 6¾ per cent in the old measurements. [Bom, Gov. Sel. CVII 62.] The details are:

Indapur Area, 1826 and 1866.

	GOVERNMENT LAND.				ALIENATED LAND.			ROADS AND PONDS.	GRAND TOTAL.
	Arable.	Un- arable.	Grazing and Un- assessed.	Total.	Arable.	Unar- able.	Total.		
	Acres	Acres.	Acres	Acres.	Acres.	Acres.	Acres.		
Present Surrey	270,076	18,095	18,679	306,850	13,854	1163	15,017	13,805	335,672
Mr. Pringle's Survey	238,135	17,912	43,653	299,700	13,884	765	14,649	272	314,621
Increase	31,941	183	--	7150	--	398	368	13,533	21,051
Decrease	--	--	24,974	--	30	--	--	--	--

It was also found advisable to reclass the lands. Apart from the errors and confusion which were inseparable from a first attempt to introduce a new system, changes of market, new lines of trade, and the opening of the railway compelled a fresh grouping of villages. In re-grouping the villages the classing was based on the permanent distinctions of climate, markets, and husbandry. The state of the landholders was not allowed to affect their position. [Bom, Gov. Sel, CVII, 66.] In fixing fresh rates care had to be taken that improvements made with the holder's capital were not considered grounds for enhancing his rental. In revising the Indapur assessment one of the chief points to consider was the effect of improved communication. When the original survey was introduced there was not a mile of made road in the subdivision. About 1852 the Poona-Sholapur road was completed and made Indapur an important centre of trade. Indapur was still a local centre but it had suffered by the opening of the railway in 1863. The second leading element in fixing revised rates was the change in produce prices. During the five years before the original settlement, the average rupee price of Indian millet was about 106 pounds (53 *shers*). During the first ten years of the lease little change took place. Indian millet rupee prices ranged from about 144 pounds (72 *shers*) in 1843-44 to about 72 pounds (36 *shers*) in 1837-38 and 1845-46, and averaged 113 pounds (56½ *shers*). In the first year of the next period of ten years (1846-47) crops failed and Indian millet rose to 30 pounds (15 *shers*) the rupee. But the price again speedily fell to 144 pounds (72 *shers*) in 1848-49 and 1849-50. From 1850 it steadily rose to 64 pounds (32 *shers*) in 1855-56. The average

for the ten years ending 1855-56 was 914 pounds (45¾ *shers*). From 1856-57 to 1861-62 the price of Indian millet varied from 64 to 54 pounds (32-27 *shers*) the rupee. During the remaining four years partly on account of the abundance of money in consequence of the American war, but chiefly because of several years of local failure of rain Indian millet remained at 32 pounds (16 *shers*) the rupee. For the ten years ending 1865-66 the average price was 53 pounds (26½ *shers*). [Bom. Gov. Sel. CVII. 71. The details are:

Indapur Produce Prices, 1836 - 1866.

YEAR.	Shers the Rupee.		Year.	Shers the RUPEE.		YEAR.	Shers the rupee.	
	<i>Jvari.</i>	<i>Bajri.</i>		<i>Jvari.</i>	<i>Bajri.</i>		<i>Jvari.</i>	<i>Bajri.</i>
1836-37	43	34	1846-47	15	13	1856-57	32	28
1837-38	36	44	1847-48	48	32	1857-58	39	37
1838-39	67	30	1848-49	72	56	1858-59	32	28
1839-40	44	30	1849-50	72	56½	1859-60	39	31
1840-41	64	44	1850-51	38	34	1860-61	33	23
1841-42	56	40	1851-52	40	32	1861-62	27	19
1842-43	68	42	1852-53	56	40	1862-63	16	16
1843-44	72	44	1853-54	56	36	1863-64	13	12
1844-45	60	36	1854-55	29	26	1864-65	16	14
1845-46	36	25	1855-56	32	29	1865-66	18	15
Average	56½	37	Average	45¾	35½	Average	26½	22

In 1836-37 the price of *jvari* is given at 66 *shers* the rupee and of *bajri* at 49, Sel. CVII 70 118.]

The third question for consideration was climate. The uncertain rainfall had prevented the Indapur landholders from realizing the wealth which ought to have accompanied so great a rise in the value of produce. The rainfall was most precarious. For two and three years at a time it was either so scanty or so untimely that no crop came to maturity. In the Kalas group a good crop might be expected once in three years. Of the other two years one was generally middling and the other utterly bad. During the five years ending 1867 the average rainfall was only 5.85 inches. [The details are: 1861-62 inches 250; 1862-63, no returns; 1863-64, 318; 1864-65, 1140; 1865-66, 6.95; 1866-67, 5.24; total 29.27; average 5.85. Bom. Gov. Sel. CVII 73] As regards the weight to be given to the three elements of change, improved communication enhanced prices and rainfall, the rainfall might be dismissed as, though bad, the climate was no worse than it had been at the beginning of the former lease. Communications might also be dismissed as the only tangible way in

which they acted on the landholder was the rise in the price of produce. [The fall in the cost of imports is also a consideration.] Prices have been shown to have risen from 182 pounds (66 *shers*) to an average of 52 pounds (26 *shers*) during the ten years ending 1866, that is a rise of 150 per cent. Up till about 1852 grain prices were so low that the original rates remained heavy. No considerable increase of capital had taken place. The years between 1852 and 1856, in spite of some indifferent seasons caused a steady and large increase of wealth. The average rupee price of *jvari* during the five years ending 1856 was 84 pounds (42 *shers*) and this price, Colonel Francis thought, might be taken as the basis at which the former rates left the landholder a liberal margin. During the ten years between 1856 and 1866 the average rupee price of *jvari* stood at 52 pounds (26 *shera*) instead of 84 pounds (42 *shers*) that is a rise of 61½ per cent. Colonel Francis therefore considered that as far as change in the price of grain went, the existing rates should be raised fifty to sixty per cent. [Bom. Gov. Sel. CVII. 74-75.]

The rates proposed by Colonel Francis were for sixty-two of the seventy-six villages a highest dry-crop, acre rate of 2s. (Re. 1); for thirteen villages near Kalas whose distance from the Mahadev hills made the rainfall specially scanty, 1s. 9d. (14 *as.*); and for the market town of Indapur 2s. 3d. (Rs.1?). Close to the banks of the Bhima were some lands which were occasionally specially enriched by flood deposits. In these the highest acre rate was fixed at 3s. (Rs.1½). The new rates raised the existing assessment by 53 per cent. With this addition the average acre rate on the whole arable area was only 11¼d. (7½ *as.*). [The original settlement, cultivated land Rs.81,184, waste Rs.207, total 1,24,700; revised settlement, cultivated land Rs. 1,24,506, waste Rs. 194, total 1,24,700 ; increase, cultivated land Rs. 43,322, decrease in waste Rs. 13, total increase Rs. 43,309 or 53 per cent. Bom. Gov. Sel. CVII. 77.] The rate of increase varied considerably in individual villages. In one case it amounted to 150 per cent, in several it was about 100 per cent, and in some it was only 17 or 18 per cent. Among the villages whose highest acre rate was 2s. (Re.1) the increase ranged from 50 to 100 per cent. The village of Nimbgaon Ketki near Indapur showed one of the smallest increases, 18 per cent. The reason was that it had a considerable area of well-garden land, bearing a special rate for which there was no corresponding entry in the new assessment, as no special rate was to be imposed on wells. In the villages whose highest acre rate was 1s. 9d. (*as.* 14), the increase varied from 25 to 50 per cent. Colonel Francis ended his report by dwelling on the loss which Indapur suffered from its uncertain and scanty rainfall. He urged that measures should be taken to introduce a large scheme for watering the lands of the sub-division. The proposed settlement was sanctioned by Government in March 1868. [Surv. Comr. Lt.-Col. Francis' Reports of January 1867 and 147 of 12th February 1867, and Gov. Letter 1211 of 27th March 1868. Bom. Gov. Sel. CVII. and CLI.]

1867-68.

In 1867-68 the rainfall was 20 inches at Indapur, 27 at Poona, 26 at Junnar, and 50 at Khadkala. In the sub-divisions along the range of the Sahyadris the rainfall was abundant and favourable and the general state of the early crops was good. In the eastern sub-divisions after the first falls of rain in June, which enabled the cultivators to sow their early crops, there was in July August and September a great want of rain and at one time

a scarcity was feared. Scarcity was averted by a heavy fall of rain in October which in a great measure saved the early crops and produced a more than average late crop. The late harvest in all the sub-divisions was good. In Bhimthadi the landholders admitted that they had not had such fine late crops for many years. The Indian millet was often six and seven feet high, more like Gujarat than *Deccan jvari*. Public health was good. [Mr. Bellasis, Revenue Commissioner, 146 of 16th January 1868, Bom, Gov. Rev. Rec. 59 of 1868, 318.] Tillage rose from 1,784,390 to 1,803,708 acres and collections from £93,730 to £111,609 (Rs. 9,37,300 - Rs. 11,16,090), £4432 (Rs. 44,320) were remitted, and £101 (Rs. 1010) left outstanding. At Indapur the rupee price of Indian millet fell from about 46 to 82 pounds (23 -41 *shers*).

1868-69.

In 1868-69 the rainfall was 8 inches at Indapur, 31 at Poona, 25 at Junnar, and 77 at Khadkala. Except in Sirur Bhimthadi and Indapur, the rainfall, though not seasonable was generally good, and the early crops on the whole did well. Owing to the want of a fall towards the close of the season the yield from the late crops was scanty. Cholera slightly prevailed in a few of the sub-divisions, but on the whole public health was good. [Revenue Commissioner Mr. Ashburner 1264 of 12th April 1869, Bombay GOV, Rev. Rec. 65 of 1869, 253.] Owing to the serious failure of rain in part of Indapur remissions to the extent of fifty per cent were granted in forty-three villages, and twenty-five per cent in thirteen villages. In sanctioning an expenditure of £100 (Rs. 1000) on clearing prickly pear from the grass lands near Allegaon, Government observed that the Khadakvasla water works, on which it was calculated 10,000 men would be engaged, would afford employment enough for those in search of employment. [Gov. Res. 715 of 19th Feb. 1869, Bom. Gov. Rev. Rec. 65 of 1869, 341.] Tillage rose from 1,803,708 to 1,814,896 acres and collections from £111,609 to £115,578 (Rs. 11,16,090-Rs. 11,55,780), £4859 (Rs. 48,590) were remitted, and £43 (Rs. 430) left outstanding. At Indapur the rupee price of Indian millet rose from about 82 to 70 pounds (41-35 *shers*).

1869-70.

In 1869-70 the rainfall, 26 inches at Indapur, 29 at Poona, 25 at Junnar, and 57 at Khadkala, was sufficient and seasonable. Except that rice suffered slightly both the early and the late crops were good. Locusts appeared in a few villages of Junnar, Khed, Maval, and Haveli; but they passed without causing any appreciable damage. Public health was good, though slight cholera appeared in parts of the district. There was no great mortality among cattle. [Rev. Comr. S. D. 74 of 7th Jan. 1870.] Tillage rose from 1,814,896 to 1,819,237 acres and collections from £115,578 to £120,148 (Rs. 11,55,780-Rs. 12,01,480), £479 (Rs. 4790) were remitted, and £27 (Rs. 270) left outstanding. At Indapur the rupee price of Indian millet rose from about 70 to 58 pounds (35-29 *shers*).

1870-71.

In 1870-71 the rainfall though abundant was not seasonable. The fall at Indapur was 24 inches, at Poona 41, at Junnar 30, and at Khadkala 66 inches. The outturn of the early

crops in Khed, Maval, Purandhar, and Haveli was fair, but excessive rain caused loss in Indapur, Bhimthadi, Sirur, and Mulshi. Except in Indapur and Bhimthadi where it was indifferent the late harvest was good. Public health was generally good, though in a few villages fever ague and cholera were prevalent. The cattle were generally free from disease. [Rev. Comr. 8. D. 38 of 4th Jan, 1871] Tillage rose from 1,819,237 to 1,831,958 acres, collections fell from £120,148 to £111,138 (Rs. 12,01,480-Rs.11,11,380), £476 (Rs. 4760) were remitted, and £255 (Rs. 2550) left outstanding. At Indapur the rupee price of Indian millet rose from about 58 to 50 pounds (29-25 *shers*).

1871-72.

In 1871-72 the rainfall was 15 inches at Indapur, 27 at Poona, 27 at Junnar, and 66 at Khadkala. The rainfall was much below the average, especially in the east. In the west the yield of the *kharif* or early crops was fair except in Junnar where it was not more than half a crop. The *rabi* or late crops throughout the district were at first very unpromising but a slight fall of rain in November revived them. In Indapur the late or *rabi* harvest was about half a crop and in Bhimthadi even less. Some Haveli villages suffered from a failure of water. Except for a few scattered cases of fever and cholera the season was healthy and cattle disease in a few Maval villages. [The Rev. Comr. 1084 of 2nd March 1872, Bom. Gov. Rev. Rec. 81 of 1872, 336.] Tillage rose from 1,831,953 to 1,842,868 acres, collections fell from £111,138 to £96,737 (Rs. 11,11,380-Rs..9,67,370), £5778 (Rs. 57,780) were remitted, and £12,450 (Rs. 1,24,500) left outstanding. At Indapur the rupee price of Indian millet fell from about 50 to 60 pounds (25-30 *shers*).

Bhimthadi 1871-72.

In 1871-72 revised rates were introduced into fifty-four villages of Bhimthadi. Of these fifty-four villages, twenty-three formerly belonged to the Pimpalgaon and thirty-one to the Kurkumb group. At the time of revision survey, with some villages formerly in Purandhar and Baramati, they formed the subdivision of Bhimthadi. [In consequence of the late redistribution of villages, the 1871 Bhimthadi subdivision, part of which was now (1871) under revision, did not correspond with the Bhimthadi sub-division of 1832-39. Surv. Supt. 440A of 12th July 1871, Bom. Gov. Sel. CIL. 201.] The villages of this group stretched east and west in a long narrow belt from the western boundary of Indapur to within twenty miles of Poona. The belt was bounded on the north and east by the Bhima; on the south by a range of hills which divided it from Purandhar and from villages which formerly belonged to Supa, and on the west by the Haveli subdivision. Of the fifty-four villages six had fallen to Government at intervals during the survey lease. Of the remaining forty-eight, which had been settled by Lieutenant Nash in 1840, the area was 382 square miles or 244,623 acres and the population 28,467 that is a pressure of 74 to the square mile. The south-east and south were rough and hilly. The north along the Bhima was level with much fine black soil. In spite of Government offers of rent-free lands for a term of years if the holders would plant them, the whole group was very bare of trees. [Lieut. Colonel Waddington, Surv. Supt. 440A of 12th July 1871. Bom. Gov. Sol. CLI 196.] At Patas the average rainfall in the eight years ending 1870 Was 13.23 inches. [The details are:

Patas Rainfall, 1863 - 1870.

YEAR.	Rainfall.	YEAR.	Rainfall.
	Inches.		Inches
1863	9.52	1868	10.32
1864	7.83	1869	22.76
1865	11.69	1870	26.31
1866	6.57	Average	13.23
1867	10.88		

Bom. Gov. Sel. CL I. 212.]

The only water-work of any size was a reservoir at Kasurdi which had been built in 1838 at a cost of £1182 (Rs. 11,820). A flood in 1843 had swept away its earthen dam which had been repaired by Government shortly before 1870. The supply was believed to be enough to water 250 acres. The chief products were *bajri* and *jvari* which together formed four-fifths of the whole. The remaining fifth was under *math*, gram, wheat, and *kulith* and a little sugarcane, cotton, tobacco, linseed, and vegetables. [In 48 villages *bajri* was 434 per cent, *jvari* 356, *math* 2, *kulih* 0.8 wheat 1, gram 1, sugarcane 0'1, tobacco 01. cotton 0 4, miscellaneous 6'1, and occupied warii 10.5. Bom. Gov. Sel. CLI. 197.]

The Pimpalgaon villages grew about twice as much *bajri* as *jvari* and the Kurkumb villages grew about one-sixth more *jvari* than *bdjri*. The revenue was collected in two equal instalments. In the early harvest or *kharif* villages these instalments fell on the 10th of January and the 10th of March; in the late harvest or *rabi* villages they fell on the 10th of February and the 10th of May.

During the survey lease communication in the Bhimthadi villages had been improved by the making of the Poona-Sholapur road and the Peninsula railway. Besides these main lines there were good roads from the station at Kedgaon to Sirur by Pargaon, and to Supa and Jejuri by Padvi. There were three market towns, Patas the mamlatdar's station, Kurkumb, and Yevat, all on the Poona-Sholapur high road. The people were almost all husbandmen. Their chief market was Poona and to a less extent Bombay. Along the Poona-Sholapur road grass and straw fetched good prices. The railway had reduced the road traffic. The toll revenue at Hadapsar had fallen from £1760 (Rs. 17,600) in 1859-60 to £901 (Rs. 9010) in 1870. Still the amount of traffic was considerable.

During the ten years ending 1850-51, that is the first ten years of the survey lease, the rupee price of *jvari* averaged 91 pounds (45½ *shers*) and of *bajri* 73 pounds (36½ *shers*). In the ten years ending 1860-61 the average rate was *jvari* 72 pounds (36 *shers*) and *bajri* 58 pounds (29 *shers*) or a rise of 26 per cent in both cases over the ten previous years. In 1851-52 the first year of this decade, the 1850,-51 prices were maintained, but they fell

again in 1852-53 though not to the same extent as in 1849-50. They then rose in 1858-59, *jvari* to 58 pounds (26 *shers*) the rupee and *bajri* to 42 pounds (21 *shers*), and, in the next two years they fell, *jvari* to 80 and 73 pounds (40 and 36½ *shers*) and *bajri* to 65 and 56 pounds (32½ and 28 *shers*). The ten years ending 1870-71 began with *jvari* at 60 pounds (30 *shers*) and *bajri* at 47 pounds (23½ *shers*). During the next four years prices rapidly rose and during the five closing years (1865-71) they fluctuated, *jvari* never falling below 65 pounds (32½ *shers*) or *bajri* below 39 pounds (19 ½ *shers*). *Jvari* closed at 36 pounds (18 *shers*) and, *bajri* at 30 pounds (15 *shers*). The average rates for this third decade were *jvari* 39 pounds (19½ *shers*) and *bajri* 30 pounds (15 *shers*) that is 133 and 143 per cent over the corresponding averages of the first decade and of 85 and 93 per cent over those of the second decade. [The details are ;

Yavat Produce Prices, shers the Rupee 1841-1871.

YEAR.	<i>Jvari.</i>	<i>Bajri.</i>	YEAR.	<i>Jvari.</i>	<i>Bajri.</i>	YEAR.	<i>Jvari.</i>	<i>Bajri.</i>
1841-42	47½	36	1851-52	36	25½	1861-62	30	23½
1842-43	55	34½	1852-53	37	29	1862-63	21	18
1843-44	64	48	1853-54	57	44½	1863-64	15½	10
1844-45	50	38	1854-55	27½	23	1864-65	11	10½
1845-46	25	23	1855-56	40	31	1865-66	16	12
1846-47	15½	15	1855-57	26	24	1866-67	22	19½
1847-48	37	30	1857-58	33	26	1867-68	11	12
1848-49	63½	52½	1858-59	26	21	1868-69	32½	19½
1849-50	64	52	1859-60	40	32½	1869-70	15	13½
1850-51	36	37½	1860-61	36½	28	1870-71	18	15
Average	45½	36½	Average	35¾	28½	Average	19½	15

Poona Produce Prices, Shers the Rupee, 1841 -1871.

YEAR.	<i>Jvari.</i>	<i>Bajri.</i>	YEAR.	<i>Jvari.</i>	<i>Bajri.</i>	YEAR.	<i>Jvari.</i>	<i>Bajri.</i>
1841-42	30	24	1851-52	33	25	1861-62	26	19
1842-43	32	28	1852-53	37	29	1862-63	20	15
1843-44	30	30	1853-54	42	36	1863-64	11	9
1844-45	27	23	1854-55	25	22	1864-65	12	10
1845-46	21	18	1855-56	28	25	1865-66	13	11

1846-47	16	14	1856-57	25	21	1866-67	18	16
1847-48	31	27	1857-58	26	23	1867-68	13	11
1848-49	55	41	1858-59	27	23	1868-69	23	16
1849-50	47	37	1859-60	34	25	1869-70	16	13
1850-51	30	25	1860-61	26	21	1870-71	17	14
Average	32¾	26¾	Average	30	25	Average	17	13½

Bom. Gov. Sel. CLI. 211.]

The average collections during the ten years ending 1850 were £4341 (Rs. 43,410). In the first year of the settlement (1840-41) the cultivated area was 123,000 acres, and the waste 43,000 acres or about one-fourth, and the assessment was £5307 (Rs. 53,070) of which £160 (Rs. 1600) were remitted, and £5147 (Rs. 51,470) were collected. No great change took place during the next three years. In 1844-45, £2293 (Rs. 22,930) were remitted and in 1845-46 £3134 (Rs. 31,340) in which year the collections were only £1772 (Rs. 17,720). During the remaining four years (1846-1850) the collections were steady at about £5000 (Rs. 50,000), and the remissions small. During the ten years ending 1860 the average collections were £5785 (Rs. 57,850) or an increase of 33 per cent on those of the first ten years. This period (1850-1860) began with a year (1850-51) marked by the large remission of £1863 (Rs. 18,630) or 29 per cent of the revenue. From 1850 things began to mend. Cultivation continued steadily to rise from 96,000 acres in 1850-51 to 164,000 acres in 1859-60, and revenue from £2500 to £7365 (Rs. 25,000-Rs. 73,650); between 1854 and 1860 remissions averaged only £2 (Rs. 20). During the ten years ending 1870 the average collections were £7259 (Rs. 72,590) or an increase of 25 per cent on those of the ten years ending 1860 and of 67 per cent on those of the ten years ending 1850. During the ten years ending 1870 the whole of the arable land had been taken for tillage, and, except in 1866-67 when £2073 (Rs. 20,730) were granted, no remissions had been required. [During the survey lease (1840-1870) tillage rose from 122,000 acres in 1840-41 to 125,000 in 1841-42 and fell to 107,000 acres in 1846-46. In the next year it rose to 111,000 and again fell to 91,000 in 1849-50. After that it steadily rose to 105,000 in 1852-53, to 120,000 in 1853-54, to 135,000 in 1855-56, to 158,000 in 1856-57, and to 165,000 in 1861-62. In the last two (1868-1870) of the remaining eight years it slightly declined. Collections rose from Rs. 51,000 in 1840-41 to Rs. 55,000 in 1842-43 and fell to Rs. 51,000 in the next year. In 1844-45 they were Rs. 29,000 and in 1845-46 Rs. 19,000. In the next five years they fell from Rs. 46,000 in 1846-47 to Rs. 25,000 in 1850-51. In the next ten years they steadily rose from Rs. 45,000 in 1851-52 to Rs. 75,000 in 1860-61. In the next nine years, except 1866-67 when they were Rs. 55,000, they stood at about Rs. 75,000. Remissions were Rs. 22,000 in 1844-45, Rs. 30,000 in 1845-46, Rs. 19,000 in 1850-51, Rs. 20,000 in 1866-67, and Rs. 3000 in 1853-54. In other years remissions were few or none. Survey Diagram. Bom. Gov. Sel. CLI. 203.] The following statement shows the revenue collections and remissions during each decade of the survey lease:

Bhimthadi Collections, 1840-1870.

YEAR.	Land Revenue.		Revenue from other sources.			Total Revenue.	Remissions.	Collections.	Arable Waste.	
	Area.	Rental	Grass.	Miscellaneous.	Total.				Area.	Rental
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Acres.	Rs.
1840-50	121,127	49,726	214	5995	6209	55,935	6319	49,616	51,137	29,236
1850-60	132,332	60,156	1103	5606	6709	66,865	2306	64,569	32,168	14,407
1860-70	165,744	74,665	2947	5065	8012	82,677	2077	80,600	1415	551

In forty-eight villages during the survey lease population increased from 20,401 in 1840-41 to 28,467 in 1870-71 or 39½ per cent; farm-bullocks from 11,568 to 13,792 or 19 per cent; other cattle from 36,931 to 39,050 or 5¾ per cent; carts from 273 to 1011 or 270 per cent; and ploughs from 1115 to 1365 or 22½ per cent. Wells in working order increased from 527 to 727 or 38 per cent. Of the addition of 200 wells, 141 were new and 59 were repaired. Of the 141 new wells eight were made in the ten years ending 1860, forty-one in the ten years ending 1860, and ninety-two in the ten years ending 1870. From a very depressed state at the beginning of the survey lease the Bhimthadi villages had in 1860 reached a high state of wealth and prosperity. [Bom, Gov. Sel. CLI. 199.] The short rainfall in 1863 and 1864 caused severe loss, and in 1866-67 another season of scanty rainfall the loss was so great that as much as £2000 (Rs. 20,000) or about 27 per cent of the collections had to be remitted. Though prices had considerably fallen during the four years between 1866 and 1870 the bulk of the people seemed to be comfortably off, and a record of sales of land showed prices varying from ten to fifty-two times the assessment. In estimating the probable standard of grain prices during future years Colonel Waddington, the survey superintendent, chose as his basis the average of the five years ending 1860 and of the five years ending 1870. This gave a rupee price of about 52 pounds (26 *shers*) for *jvari* and about 40 pounds (20 *shers*) for *bajri*. These prices were for *jvari* 68 per cent and for *bajri* 72 per cent higher than the average prices during the fifteen years ending 1855. As their conditions were so much alike Colonel Waddington thought that the increase of fifty to sixty per cent which had been introduced into Indapur might be applied to Bhimthadi. This result would be obtained by fixing on the Kurkumb group the highest dry-crop acre rate in sixteen villages at 2s. 6d. (Rs. 1¼) and in nine villages at 1s. 3d. (Rs. 1 ?). Their nearness to the Poona market and their surer rainfall made the Pimpalgaon villages so much better off than Indapur that to equalize them, in twenty-two of the Pimpalgaon villages the highest dry crop acre rate should be raised to 3s. (Rs. 1½) and in seven villages to 3s. 6d. (Rs. 1¾). Under this arrangement, of fifty-

four villages seven were in the first class with a highest dry-crop acre rate of 3s. 6d. (Rs. 1¾); twenty-two were in the second class with a highest rate of 3s. (Rs. 1½); sixteen were in the third class with a highest rate of 2s. 6d. (Rs. 1¼); and nine were in the fourth class with a highest rate of 2s. 3d. (Rs. 1⅓). The effect of these rates in forty-eight villages was an increase of 73 per cent. Of this whole increase about £1533 (Rs. 15,330) or twenty per cent was due to the discovery of land held in excess of the recorded area. The following statement shows the effect of the survey:

Bhimthadi Revision Settlement, 1871.

SETTLEMENT.	Village.	CULTIVATED LAND		WASH.		TOTAL.	
		Area.	Rental.	Area.	Rental.	Area.	Rental
		Acres.	Rs.	Acres.	Rs.		Rs.
Proposed	48		1,28,971	2019	871	188,795	1,29,842
Existing	48	164,618	74,222	1884	644	166,502	74,866
Increase	--	22,158	54,749	135	227	22,293	54,976

In individual villages the increase varied considerably. In one case it was as high as 120 per cent; in another it was as low as 16 per cent. No rate beyond the highest dry-crop rate was laid on well watered lands. On channel watered land the acre water rate varied from 2s. to 12s. (Rs. 1-6) in excess of the dry-crop rate. This channel water cess yielded £119 (Rs. 1190). Into the six villages which had lapsed to Government since the introduction of the 1840 settlement, the survey had been introduced, leases being granted for terms which would end at the same date as the thirty years lease of the rest of the sub-division. The cultivated area of these six villages was 23,908 acres. Compared with the preceding year's payments their rental under the proposed rates showed an increase from £1160 (Rs. 11,600) to £1675 (Rs. 16,750) or 44 per cent. Under the new survey the total cultivated land in the fifty-four villages was 212,703 acres or an increase of 22,293 acres or 11 per cent. The assessment including the rates on channel watered lands was £14,660 (Rs. 1,46,600) against £8646 (Rs. 86,460) or an increase of 69 per cent. [Lt-Col. Waddington, Surv. Sunt 440A of 12th July 1871. Bom. Gov. Sel. CLL 195 - 210.] Government sanctioned the proposed rates in January 1872. [Gov. Res. 385 of 26th Jan. 1872 in Bom. Gov. Sel. CLL 271.]

1872-73.

In 1872-73 in Junnar and Khed the rainfall was much below-the average. In the rest of the district the season was favourable. A heavy fall early in September damaged the early crops especially in Khed, Junnar, and Haveli. In the west the yield of the early crops was fair. The late crops started badly, but a fall early in December did them much service and the outturn was good. The Mavals and the north were the only parts which suffered. The

rainfall was 26 inches at Indapur, 22 at Poona, 15 at Junnar, and 79 at Khadkala. Cholera was present in Poona and its suburbs, and a few cases occurred in Bhimthadi, Purandhar, and Sirur. Dengue fever was general in Poona, Bhimthadi, and Purandhar. [Revenue Commissioner S. D. 6369 of 31st December 1872.] Tillage rose from 1,842,868 to 1,848,831 acres and collections from £96,737 to £112,689 (Rs. 9,67,370-Rs.11,26,890), £547 (Rs. 5470) were remitted, and £4552 (Rs. 45,520) left outstanding. At Indapur the rupee price of Indian millet rose from about 60 to 28 pounds (30-14 *shers*).

Between 1872 and 1874 the revised settlement was introduced *Pabal*, into Pabal. In 1866 the villages of the old Pabal sub-division had 1872-1874. been distributed among Khed, Junnar, Parner, and Sirur. Revised rates were introduced into a group of fifty-six villages of the old Pabal sub-division, and new rates into three villages received from H. H. Holkar. The fifty-six villages had an area of 353 square miles or 225,613 acres and a population of 53,525 or 151 to the square mile. A range of hills running west and east divided the lands of this group into two. To the south was the valley of the Vel bounded southward by a range running from Gulani to Kendur, where it sank into the plain. The eastern border from Nimbgaon to Chincholi was broken and hilly, the rest of the valley was waving and there was much fine land with many water channels. The tract to the north of the central line of hills included the two large valleys of the Ghod and the Mina, the villages lying chiefly along the banks of these streams. The parts to the west were better wooded, and from their nearness to the Sahyadris enjoyed a heavier and less uncertain supply of rain. During the four years ending 1866 the Pabal rainfall averaged 14.91 inches; 11.38 inches fell in 1868, 17.68 in 1864, 16.91 in 1865, and 13.67 in 1866. [The western and northern villages of Pabal had more rain than the eastern villages. The following details of the rainfall at Khed, Ghod, and Junnar on the west and north and at Sirur on the east show that the fall increased towards the , west. From Parner northward the fall of rain was generally good and certain. Bom. Gov. SeL CLI. 303, 304:

Poona Rainfall, 1863-1871.

YEAR.	Khed.	Ghode.	Junnar.	Sirur.	Pabal.	Up to
1863	14.62	13.38	13.56	7.86	11.33	30th Sept.
1864	10.63	14.30	14.78	5.33	17.68	Do.
1865	13.77	17.75	13.18	14.61	16.91	Do.
1866	16.75	22.27	21.33	7.93	13.67	Do.
1867	11.55	12.90	--	--	--	4th Nov.
1868	26.38	23.34	25.31	13.88	--	30th
1869	28.05	26.0	23.92	17.60	--	Do.
1870	33.05	28.67	29.62	25.95	--	Do.
1871	23.93	22.29	26.75	17.47	--	Do.

Average	19.86	20.10	21.06	13.83	14.91	--
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The lands of this group were drained by four rivers, the Bhima, Mina, Ghod, and Vel. As their sources were in the Sahyadris, the Bhima, Mina, and Ghod had an unfailing supply of water, though in consequence of the depth of their channels they were not used for irrigation. The Vel, which rose in a small range about nine miles north-west of Khed and in the hot weather occasionally failed, was of more value to the landholders as its banks were so low that its water could be stopped and used for irrigation by building temporary dams.

The price returns for Talegaon in the south-east and for Manchar in the north-west corner of the Pabal group showed that at Talegaon, the average rupee price of *bajri* during the ten years ending 1871 was about 32 pounds (16 *shers*) compared with about 74 pounds (37 *shers*) during the ten years ending 1851, that is a rise of 131 per cent. At Manchar the corresponding rates were 32 pounds (16 *shers*) instead of 76 pounds (38 *shers*) that is a rise of 137.5 per cent. Compared with the prices of the fifteen years ending 1855 the average price of *bajri* during the ten normal years, five ending 1860.61 and five ending 1870.71, that is leaving out the five American war years, showed a rise of 52.1 per cent. [

The details are:

Pabal Produce Prices : Shers the Rupee, 1841-.1871.

TALEGAON.									
YEAR.	<i>Javari.</i>	<i>Bajri.</i>	Wheat.	Gram.	YEAR.	<i>Javari</i>	<i>Bajri</i>	Wheat.	Gram.
1841-42	44	35	26	24	1851-52	40	34	27	26
1842-43	53	38	26	23	1852-53	52	39	30	20
1843-44	67	39	30	34	1853-54	35	26	26	22
1844-45	34	30	27	28	1854-55	23	22	17	18
1845-46	27	23	20	15	1855-56	39	35	22	26
1846-47	24	23	13	15	1856-57	31	26	19	24
1847-48	67	55	17	16	1857-58	31	27	19	20
1848-49	93	66	31	34	1858-59	37	29	22	19
1849-50	53	38	31	28	1859-60	57	40	22	23
1850-51	34	27	23	26	1860-61	43	26	17	16
Average	50	37	24	24	Average.	39	30	22	21

MANCHAR.									
1841-42	46	42	30	23	1851-52	34	30	28	28
1842-43	48	34	26	34	1852-53	44	42	30	26
1843-44	60	43	34	38	1853-54	30	27	27	27
1844-45	46	42	21	22	1854-55	26	23	21	23
1845-46	28	23	20	22	1855-56	24	22	20	26
1846-47	28	26	17	17	1856-57	34	30	22	24
1847-48	55	44	26	29	1857-58	30	26	22	19
1848-49	72	58	38	41	1858-59	35	31	26	25
1849-50	58	42	33	35	1859-60	44	34	23	24
1850-51	34	28	25	30	1860-61	34	27	18	18
Average	47	38	27	29	Average	33	29	24	24

continued..

TALEGAON.				
YEAR.	<i>Javari</i>	<i>Bajri</i>	Wheat.	Garm.
1861-62	28	23	19	13
1862-63	15	13	12	13
1863-64	15	13	11	11
1864-65	12	10	9	10
1865-66	27	20	8	10
1866-67	16	15	10	10
1867-68	20	16	9	10
1868-69	20	22	13	15
1869-70	22	17	9	11
1870-71	19	15	12	13
Average	19	16	11	12
1861-62	29	23	19	14
1862-63	17	15	15	17
1863-64	16	14	14	14

1864-65	13	10	8	10
1865-66	23	17	10	12
1866-67	24	19	10	9
1867-68	19	12	10	9
1868-69	34	21	16	20
1869-70	19	14	9	9
1870-71	21	16	9	9
Average	21	16	12	12

Manchar Potato Prices: Rupees the Palla, 1848-1871.

	Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
1848-49	3¼	1852-53	3¼	1856-57	4¼	1860-61	4	1864-65	7	1868-69	2½
1849-50	2½	1853-54	2½	1857-58	2⅛	1861-62	2½	1865-66	5½	1869-70	2
1850-51	3½	1854-55	2¾	1858-59	4½	1862-63	3	1866-67	5	1870-71	2
1851-52	2	1855-56	4	1859-60	3½	1863-64	4	1867-68	4		

TALEGAON, average of fifteen years (1841-42 to 1855-56), *Jvari* 46. *bajri* 35, wheat 24, gram 24; average of ten years (1856-57 to 1860.61 and 1866-67 to 1870.71), *jvari* 30, *bajri* 23, wheat 15, gram 16. MANCHAR, fifteen years' average, *jvari* 42, *bajri* 35, wheat 26, gram 28; ten years' average, *jvari* 29, *bajri* 23, wheat 16, gram 17; potato eight (1848.1856) years' average, Rs. 2 *as*. 15 the *palla* of 120 shers and ten years' average, Ra. 3g. Bom. Gov. Set CLI. 307.]

In the five years (1836-1841) before the former settlement, in the fifty-six villages for which the revision survey prepared a diagram, the average collections amounted to £6651 (Rs. 66,510) and the average remissions to £2276 (Rs. 22,760). The assessment of unoccupied land during the four years ending 1840 varied from £4632 (Rs. 46,320) to £4323 (Rs. 43,230) or about one-third of the whole. In 1841, 10,000 acres of waste were taken for tillage but the very large amount of £3604 (Rs. 36,040) of remissions had to be granted. The introduction of the rates was not completed until 1844-45 and in 1845-46 a considerable area was set apart for free grazing. The first five years shewed no increase of tillage or other improvement. In 1846-47 the cultivated acres were 142,000 and the waste 21,600 or about one-seventh, the assessment on occupied land was £8121 (Rs. 81,210), and the remissions only £6 (Rs. 60). The years 1847-48 and 1848-49 show a

slight increase in cultivation and collections, but, during the three years ending 1852, both cultivation and collections decreased; in 1851-52 the collections amounted to only £8038 (Rs. 80,380). The average cultivation during the six years ending 1852 was 144,742 acres and the average collections £8178 (Rs. 81,780). During the ten years ending 1862 the cultivation and the collections steadily increased. The cultivation rose from 137,673 acres in 1852-53 to 158,556 acres in 1861-62 and averaged 145,251 acres, and the collections from £8083 to £9129 (Rs. 80,830-Rs. 91,290) and averaged £8549 (Rs. 85,490); the only remissions granted were £54 (Rs. 540) in 1853-54. [A part of the increase was due to bringing to account the assessment of alienated lands, which attended the introduction of Captain Wingate's scale of remuneration of village officers in 1853-64. Bom. Gov. Sel. CLI. 310.] During the ten years ending 1872 the cultivation and collections remained nearly steady, the average area under cultivation being 161,336 acres, and the average collections £9230 (Rs. 92,300); the only remission during this third term of ten years was £4 (Rs. 40) in 1871-72. The waste land in the last year of the lease was only 508 acres or 0'003 of the total arable area or 0.3 per cent. The following statement gives the average revenue for the thirty-six years ending 1871-72:

Fifty-six Pabal Villages : Revenue, 1836-1872.

YEAR.	RENTAL.			REMISSIONS.	COLLECTIONS.
	Occupied.	Waste.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
1836-37	87,560	46,318	1,33,878	18,764	68,796
1837-38	86,421	44,480	1,30,901	15,591	70,830
1838-39	86,907	45,162	1,31,069	26,443	59,464
1839-40	89,657	43,234	1,32,791	16,980	72,577
1840-41	96,916	33,185	1,30,101	36,043	60,873
1836-1841	89,272	42,476	1,31,746	22,764	66,508
1846-1852	--	--	--	--	81,784
1852-1862	--	--	--	--	85,487
1862-1872	--	--	--	--	92,297

In this survey group of fifty-six villages during the survey lease population increased from 48,102 in 1841 to 53,525 in 1871 or 11.27 per cent; bullocks from 18,131 to 18,634 or 2.7 per cent; other cattle from 40,666 to 58,393 or 7.5 per cent; carts from 754 to 1304 or 73 per cent; ploughs from 2715 to 3052 or 124 percent; and wells in working order from 1493 to 1977 or 32.4 per cent. [Between 1861 and 1871, 386 wells were sunk. The well cess imposed in 1840 was most unpopular. In 1843 it was revised, but complaints

still continued. Many wells in good repair fell into disuse, the landholders, in some cases building new wells, exempt from the cess, rather than use old wells on which the tax was imposed. In 1853-54 the sum of Rs. 1875 was remitted on account of unused wells and water channels. Bom. Gov. Sel. CLI. 306.] The land was more regularly and carefully tilled in the Pabal villages than in East Poona. Both light and heavy soils were ploughed every year. A six or eight-bullock plough was used for heavy soils, and a four-bullock plough for light soils. January or February ploughing was considered more useful than ploughing later in the season. Besides ploughing them it was usual to harrow all kinds of soil before sowing, and to weed with the hoe once or twice after the crops had sprung up. Garden lands, as a rule, were ploughed twice, once lengthways and once crossways before each crop, and 25 to 30 cartloads of manure an acre were always given though the price varied from 1s to 4s. (Rs. $\frac{1}{2}$ - 2) and was sometimes even as high as 6s. (Rs. 3) the cartload. Dry-crop lands occasionally received ten to fifteen cartloads of manure the acre. The use of manure on dry-crop lands was much more general than it had been some years before. In the dry-crop soils either late or early crops were grown. Of the early or *kharif* crops the lighter soils yielded year after year *bajri* mixed with *hulga*, *math*, *jvari*, *ambadi*, and *mug*; in the better spils were grown *bajri*, with every fourth furrow *bajri* and *tur*; *bajri* only, followed in good seasons by a late crop of gram; *udid* and *mug* grown separately, followed in good seasons by wheat or gram after *udid*, and by *kardai* or *jvari* after *mug*; potatoes, which when raised as an early crop, in good seasons, were succeeded by gram wheat or *jvari*. As a rule *rabi* or late crops were grown only on the best soils. They included *jvari* generally mixed with *kardai*, or wheat mixed with *kardai*, or gram, followed in the fourth year by *bajri*, and in good seasons by a second crop. The above were the only rotations. In garden land the usual rotation was in the first year *bajri* or potatoes with a late crop of wheat, gram, or vegetables; in the second year earthenut or chillies; in the third year sugarcane or *bajri* with a late crop. In most villages large numbers of sheep were reared as Poona furnished a certain and convenient market. The wool was sold to the weavers, and the droppings formed one of the best manures and were carefully collected in the pens in which the sheep were folded at night. Especially in gardens the sub-divisions of land were very minute and the right of occupancy was jealously guarded. The land bore a high sale value. In some instances dry-crop land was sold or mortgaged for as much as 116 to 160 years' purchase of the assessment.

Though the line did not pass through any part of it, the Pabal group had gained by the opening of the Peninsula railway. The stations at Uruli and Talegaon Dabhade afforded easy access to the Bombay market. The group was also crossed from south to north by the Poona-Nasik road, and from west to east by the Poona-Ahmadnagar road. There were also several good fair-weather roads, and two metalled high roads, one branching from Shikrapur and forming a direct line to Talegaon on the railway, the other connecting the town of Pabal with Poona. A fair-weather road from Pabal to Sirur by Malthan was nearly completed. The Bhima at Koregaon and the Ghod at Kalamb were crossed by ferries during the rainy season and a substantial bridge spanned the Vel at Shikrapur. The only road which remained to complete the system of communication was the road from Sirur to Narayangaon. The fall in the toll farm from £2250 (Rs. 22,500) in 1865-66 to £520 (Rs. 5200) in 1872-73 showed how greatly railway competition had reduced cart traffic. [Lieut.-Col. Waddington, Surv. Supt. 689 of 10th October 1872. Bom. Gov. sel.

CLI. 301. The toll amounts were (farmed) 1865-66 Rs. 22,500, 1866-67 Rs. 19,500, 1867-68 Rs. 16,000, 1868-69 Rs. 14,000, 1869-70 Rs. 12,000, 1870-71 Rs. 10,500; (managed by Sirur mamlatdar) 1871-72 Rs. 6295, and (farmed) 1872-9 Rs. 5200.] The chief towns, none of which were of any considerable size, were Pabal, Talegaon, Manchar, and Kauta. Weekly markets were held at each of these towns and also at Vapgaon; and Narayangaon and Khed were convenient markets for the villages near them. On the whole the people had great advantages in disposing of their field produce; no part of the group was more than five or six miles from a market town. Tillage was almost the only industry. There were 217 looms some for blankets others, for coarse cottons. Lavish expenditure on marriages and other social ceremonies had kept the people dependent on the money- lenders. Still their state had greatly improved since 1841. The chief causes of their improvement were a sufficient and a fairly certain rainfall, unbroken peace, low assessment, the extended use of the potato, the opening of the railway and of roads, and the rise in grain prices. [Lieut.-Col. Waddington, Surv. Supt. 689 of 10th October 1872, and Col. Francis, Surv. Comr, 273 of 13th Feb, 1873. Bom. Gov. SeL CLI. 305, 351-352.]

The fifty-six villages were arranged in six classes with highest dry-crop acre rates varying from 6s. to 3s. 6d. (Rs. 3 -1¾). The two elements for reducing rates were less certain rain and more distant markets. The first class contained one village with a highest dry-crop acre, rate of 6s. (Rs. 3); the second class contained sixteen with 5s. 6d. (Rs. 2¾); the third class, thirteen with 5s. (Rs. 2½); the fourth class, twelve with 4s. 6d. (Rs. 2¼); the fifth class, eight with 4s. (Rs. 2); and the sixth class, six with 3s. 6d. (Rs. 1¾). Of the three villages received from Holkar one was placed in the first, one in the third, and one in the fifth class. There were no masonry dams, but, especially along the Vel, the people made temporary embankments. The chief crops grown under the channels were sugarcane, potatoes, earthnut, chillies, vegetables, and garlic in a few villages. The highest acre rate proposed for channel water was 12s. (Rs. 6) and the lowest 2s. (Rs. 1). The assessment on this account amounted to £563 (Rs. 5630) or an average acre rate of 5s. 3d. (Rs. 2½). The total former assessment on wells and channel together was £1343 (Rs. 13,430) of which only £1203 (Rs. 12,030) were collected in 1871-72, the remainder being remitted as the wells were not in use. Under the revision survey no extra assessment was imposed on well lands, a change which, on the 10,047 acres of well land, represented a loss to Government of £2000 to £2500 (Rs. 20,000-25,000). Of rice land, there were only ninety-two acres. As it was of superior quality the highest acre rate was fixed at 10s. (Rs. 5), and the average at 6s. 2¾d. (Rs. 3 as. 1 7/12). The proposed rates increased the assessment on Ansari, the only village in the first class by 70 per cent; on the villages of the second class by 74 per cent; on those of the third class by 94 per cent; on those of the fourth class by 90 per cent; on those of the fifth class by 95 per cent; and on those of the sixth class by 103 per cent. The average increase on all the fifty-six villages was 88 per cent over the previous year's payments. The following statement shows the effect of the survey:

Pabal, Fifty-six Villages: Revision Settlement, 1872.

SETTLEMENT.	OCCUPIED.		UNOCCUPIED.		TOTAL.	
	Area.	Rental.	Area.	Rental.	Area.	Rental.
	Acres.	Rs.	Acres.	Rs.	Acres	Rs.
Proposed	181,076	173,898	567	360	181,643	174,258
Existing	160,692	92,359	548	230	161,240	92,589
Increase	20,384	81,539	19	180	20,403	81,669

Compared with the average collections between 1862 and 1871 the revised survey rental showed an increase of £8160 (Rs. 81,600) or 88 per cent; and compared with the average collections from 1836 to 1840 they showed an increase of;610,739 (Rs. 1,07,390) or 161 per cent. The rental of the three villages received from Holkar was raised 60 per cent. The greatest individual increase was a rise of 159 per cent in Eklahara. The largest general increase, 103 per cent, was in the lowest or sixth class in which the average dry-crop acre rate was only 1s. 3½*d.* (10 1/12 *as.*). The highest dry-crop acre rate, which occurred in Pimpalgaon, was 3s. 10¾*d.* (Re. 1 *as.* 15 1/6). The average dry-crop acre rate in the fifty-six villages was 1s. 10¼*d.* (14 5/6*as.*). [Lt.-Col. Waddington, 689 of 10th Oct. 1872. Bom. Gov. Sel. CLI. 297-314.]

In forwarding the Superintendent's proposals, the Survey Commissioner Colonel Francis made some changes in the grouping of villages and removed the first class rate of 6s. (Rs. 3). His proposals reduced the increase in the total rental of the fifty-six villages from 88 to 85 per cent and of the three villages received from Holkar from 60 to 45 per cent. He next suggested that in addition to this a reduction of four *annas* a class for the first four classes and of two *annas* in the fifth or last class might be made in the highest dry-crop acre rates. This would reduce the rates to 5s. (Rs. 24), 4s. 6*d.* (Rs. 2¼), 4s. (Rs. 2), 3s. 6*d.* (Rs. 1¾), and 3s. 3*d.* (Rs. 1?), and bring the increase down to 65 or 66 per cent. [Col. Francis, Surv. Comr. 273 of 13th Feb. 1873, Bom. Gov. Sel. CLI. 349-356.] Government adopted a somewhat different grouping from that proposed by the survey officers. They sanctioned the following highest dry-crop acre rates, 5s. (Rs. 2½) for nine villages, 4s. 3*d.* (Rs. 2?) for nine villages, 4s. (Rs. 2) for twenty-four villages, and 3s. 3*d.* (Rs. 1 5/8) for seventeen villages. With these rates the increase on the whole fifty-nine villages amounted to about 75 per cent beyond the old assessment in place of the 88 per cent proposed by the Superintendent. [Gov. Res. 2158 of 16th April 1873, Bom, Gov. Sel. CLI, 361-364.] The final result of the revised settlement introduced into the fifty-nine villages of the Pabal group was as follows: Under the revised settlement, the average dry-crop acre rate was 1s. 6?d. (12¼ *as.*), the water rate 4s. 7 5/8 *d.* (Rs. 2 *as.* 5 1/12), and the rice land rate 6s. 8*d.* (Rs. 3 *as.* 5 1/12). The total assessment on occupied lands was £15,151 (Rs. 1,51,510) or £3819 (Rs. 38,190) less than that originally proposed by the Superintendent, and £4928 (Rs. 49,280) or 48 per cent more than the former assessment. [Bom. Gov. Sel. CLI. 364-379.]

Haveli, 1872-73.

The revised survey settlement was introduced into Haveli in 1872-73. Of the eighty-four villages under revision, twenty-one of which formerly belonged to Bhimthadi and seven had since the first settlement been transferred to Maval, three villages were omitted as survey rates had been introduced into them within the preceding fifteen years. The Haveli or mamlatdar's group was bounded on the north by the Bhima and Indrayani; on the east by Bhimthadi; on the south by the Sinhgad-Bhuleshvar hills; and on the west by the Nane Maval, the Mulshi petty division, and the Pant Sachiv's territory. Nearly in the centre was Poona a city of 90,436 people from which no part of the group was more than eighteen miles distant, and which formed a ready and convenient market for all kinds of produce. The total area of the eighty-one villages was 319 square miles or 204,135 acres. Of these 10,198 acres or 4.8 per cent was unarable land included in numbers, and 18,346 or 8.8 per cent was alienated. There were also 6673 acres of grass or *kuran* land, chiefly in the villages to the west of Poona and near the Sahyadris. The Haveli sub-division was more varied than any of the sub-divisions yet resettled. East of Poona the country was flat, open, and almost bare of trees; to the west it was rugged and hilly, and much of it well wooded, especially along the south side of the Mutha river where were large numbers of fine mangoes and a sprinkling of jack trees which were unknown to the east of Poona. Teak occurred on the hill sides but never grew to any size. The climate varied much, the rainfall increasing towards the west, until, in the border villages rice and *nagli* took the place of *jvari* and *bajri*. The lands to the east of the city were divided into two nearly equal portions by the Mutha-Mula. The tract lying between the Mutha-Mula and the Bhima comprised some of the poorest villages. It was chiefly stony sterile upland, better fitted for sheep grazing than for tillage. The people made the most of their barren inheritance, every available gorge in the ravines being blocked with rough stone embankments to gather and hold the scanty soil washed from the higher grounds. The district to the south between the Mutha and the hills was much more level, and contained a large proportion of rich soil. Even the villages under the hills were not unfertile, the more plentiful rainfall which they enjoyed making up for their somewhat poorer soil. Towards the west the rainfall was heavier. During the nine years ending 1871, compared with an average of 27.07 inches at Poona, Patas about forty miles to the east had an average of 14.1S inches and Mulshi about twenty-live miles to the west, of 46.99 inches. [Bom, Gov. Sel. CLI, 400. The details are:

Poona-Patas-Mulshi Rainfall, 1863-1871.

YEAR.	Poona.	Patas.	Mulshi.	Up to
	Inches.	Inches.	Inches.	
1863	22.55	9.52	54.20	30th Sept.
1864	16.55	7.83	45.34	Ditto.
1865	31.28	11.69	43.96	Ditto.

1866	18.90	6.57	54.70	4th Nov.
1867	27.29	10.88	26.69	Ditto.
1868	30.91	10.32	51.48	30th Nov.
1869	28.16	22.76	39.28	Ditto.
1870	40.60	26.31	61.50	Ditto.
1871	27.38	21.75	45.80	Ditto.
Average	27.07	11.18	46.99	--

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The country was well watered. Besides by minor streams it was crossed by five considerable rivers including the Bhima and the Indrayani on. the north. [The Bhima, the Indrayani, the Mula, the Patina, and the Mutha.] During the survey lease (1841-1871) Poona produce prices had doubled. The rupee price of *jvari* rose from about 63½ pounds (31¾ *shers*) in the ten years ending 1851 to 60 pounds (30 *shers*) in the ten years ending 1861, and to 34 pounds (17 *shers*) in the ten years ending 1871; the corresponding averages for *bajri* were 53½, 50, and 27 pounds (26¾, 25, and 13½ *shers*). [In 1840, at the time of the first settlement, Gapt. Wingate and Lt. Nash estimated that the price of grain ranged about 25 per cent higher in Poona than in the adjoining sub-division of Bhimthadi. The statement given below shows that from 1841 to 1851 the average price of *jvari* was 30 and of *bajri* 35 per cent higher in Poona than in Yevat; from 1851 to 1861 the price of *jvari* was 19 and that of *bajri* 15 per cent higher; but during the last ten years (1861-1871), owing to the levelling influence of railways, the difference fell to 13 per cent on *jvari* and 11 per cent on *bajri*, while in 1871 it was only 50 on *jvari* and 7 on *bajri*. Bom. Gov. Sel. CLI. 409. The details are:

Poona-Yevat-Talegaon Produce Prices, 1841-1871.

YEAR	POONA.		YEVAT.		TALEGAON		YEAR.	POONA.		YEVAT.		TALEGAON.	
	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>		<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>
1841-42	30	24	47½	36	44	35	1851-52	33	25	36	25½	40	34
1842-43	32	28	55	34½	53	38	1852-53	37	29	37	29	53	39
1843-44	30	30	64	48	67	39	1853-54	42	36	57	44½	35	24
1844-45	27	23	50	38	34	30	1854-55	25	22	27½	23	23	22
1845-46	21	18	25	23	27	23	1855-50	28	25	40	31	39	35
1846-47	16	14	15½	15	24	23	1856-57	25	21	26	24	31	26

1847-48	31	27	37	30	67	55	1857-58	26	23	33	26	31	27
1848-49	55	41	63½	52½	93	66	1858-59	27	23	26	21	37	29
1849-50	47	37	64	52	53	38	1859-60	34	25	40	32½	57	40
1550-51	30	25	36	37½	34	27	1860-61	26	21	36½	28	43	26
Average	31¾	26¾	45¾	36½	50	37	Average	30	25	35 4/5	28	39	30

Poona-Yevat-Talegaon Produce Prices. 1841 -1871—continued.

YEAR.	POONA.		YEVAT.		TALEGAON.	
	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>	<i>Jvari.</i>	<i>Bajri.</i>
1861-62	26	19	30	23½	28	23
1862-63	20	15	21	18	15	13
1863-64	11	9	15½	10	15	13
1864-65	12	10	11	10½	12	10
1865-66	13	11	16	12	27	20
1866-67	18	16	22	19½	16	15
1867-68	13	11	14	12	20	16
1868 69	23	16	32½	19½	20	22
1869-70	16	13	15	13½	22	17
1870-71	17	14	18	15	19	15
Average	17	13½	19½	15	19	16

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In the group of eighty-one villages the average collections during the five years before the first settlement were £6445 (Rs. 64,450), and the average remissions £2534 (Rs. 25,340). During the eleven years ending 1852 the average collections were £6974 (Rs. 69,740) or 8.2 per cent more than the collections of the five years ending 1841 and the average remissions were £42 (Rs. 420). In 1841-42 the first year of the survey settlement the total area of Government assessed land was 124,500 acres and the rental £7450 (Rs. 74,500); of which 16,000 acres or nearly one-eighth was waste. In 1843-44 the levy of a well-cess raised the assessment to £7708 (Rs. 77,080); but the same year £100 (Rs. 1000) and in the succeeding year £199 (Rs. 1990) of the newly imposed cess were remitted. After 1849-50 the whole amount was collected except about £40 (Rs. 400). In 1851-52 the arable waste was reduced to 10,000 acres or one-twelfth of the whole arable area.

During the ten years ending 1862 the arable waste fell from 9777 to 1922 acres, and the average remissions on account of well-cess were £18 (Rs. 180). The largest remission during the thirty-one years ending 1861 was £679 (Rs. 6790) in 1853-54. The average collections during the ten years ending 1862 were £7626 (Rs. 76,260) or 9.3 per cent more than the collections of the eleven preceding years and 18.3 per cent more than those of the five years before the settlement. The average remissions were £73 (Rs. 730). Since 1862 the arable waste was gradually absorbed until in 1871-72 only 634 acres of arable land remained unoccupied. Since 1856 there were almost no remissions, and the average collections for the ten years ending 1872 were £7815 (Rs. 78,150) or 2.5 per cent more than the preceding ten years, and 21.3 per cent more than the five years (1836-1841) before the settlement. They would have been greater had not a considerable quantity of land been taken for forest and other Government purposes, such as the powder works at Kirkee and for Lake Fife. [The TILLAGE area rose from 109,000 acres in 1841-42 to 117,000 acres in 1846-47, fell to 115,000 in 1852-53, and again rose to 125,000 acres in 1860-61. Since 1866 it began to decline and reached 121,000 acres in 1871-72. The largest remissions were about Rs. 6800 in 1853-54. In other years there were little or no remissions. The collections rose from Rs. 65,000 in 1841-42 to Rs. 71,000 in 1846-47. They fell to Rs. 70,000 in the next five years, rose to Rs. 71,000 in 1852-53, and again fell to Rs. 67,000 in 1853-54. They then rose to Rs. 77,000 in 1857-58 and stood at Rs. 79,000 during the next six years. Since then they began to decline and reached Rs. 76,000 in 1871-72. Survey Diagram. Bom. Gov. Sel. CLI. 410.]

Haveli, Eighty-one Villages : Revenue, 1836 -1872.

YEAR.	Dental.			Remissions.	Collections.
	Occupied.	Unoccupied.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
1836-37	90,118	44,948	1,35,066	19,089	71,029
1837-38	88,976	38,017	1,26,993	26,567	62,409
1838-39	89,503	35,060	1,25, 563	35,097	54,406
1839-40	90,543	35,904	1,26,447	27,677	62,866
1840-41	89,834	36,268	1,26,102	18,281	71,553
1836-1841	89,795	38,239	1,28,034	25,342	64,452
1841-1852	--	--	--	419	69,744
1852-1862	--	--	--	729	76,262
1862-1872	--	--	--	--	78,152

During the survey lease, in the eighty-one villages, population had increased from 37,695 in 1840-41 to 53,829 in 1871-72 or 428 per cent; houses from 6598 to 7079 or 7/3 per cent; carts from 1146 to 2655 or 131.7 per cent; ploughs from 1907 to 2284 or 19.8 per cent; draught and plough bullocks from 15,899 to 17,811 or 12 per cent; cattle, sheep, and horses from 26,890 to 34,845 or 296 per cent; and working wells from 799 to 1091 or 36.5 per cent. Of 418 new wells 276 had been sunk during the ten years ending 1872. The liberal remission of the well cess was beginning to have the best effect. Several landholders in the Haveli group, on being assured by the Survey Superintendent that the wells were not to be taxed under the revision survey and that Government were prepared to help them with advances, took to sinking wells. Especially in the north-east villages many dams were also built with the object of collecting soil to prevent the fields being damaged by floods. The style of tillage showed more energy and care than in parts of the district at a distance from good markets. Manure was eagerly sought for and brought from long distances. The city and cantonment of Poona furnished a large supply in the shape of night-soil which, after being buried in trenches for three or four months, was bought by the landholders of the surrounding villages. A few years before no Kunbi would touch this form of manure. The price paid at the trench was 2s. (Re. 1) for three carts. Of dry-crops both early and late were grown. They included *bajri*, *jvari*, gram, *tur*, wheat, *khurasni*, *udid*, and *mug*. Near Poona those crops were grown which were calculated to meet the daily demands of a large city. Thus early *jvari* and maize for green fodder to a great extent superseded grain. In garden lands, for some miles round Poona, oranges, limes, guavas, plantains, figs, pomegranates, grapes, and mangoes, and vegetables of all kinds both local and foreign were reared to a large extent. Lucerne grass was much grown and was a profitable crop. It required watering once in twelve or fifteen days, and continued to yield for three years. The guava also gave a good return; it preferred a light soil and required water only during the bearing seasons, between October and December and again between April and May. The tree was very hardy and generally yielded a certain crop. It was usual for the husbandmen to sell the crop of oranges, limes, and mangoes on the tree as soon as the young fruit was fairly set. But figs were so uncertain that the crop was seldom bought until it was well developed. Betel vine gardens or *pan malas* were numerous especially in the villages of Kondva, Undri, Mahamadvasi, and Phursangi. These gardens required a large outlay at starting, and, throughout the year, constant attendance for weeding, watering, insect-killing, and leaf-gathering. They paid well, the returns being constant, as the rows of vines were arranged so as to come into bearing in regular rotation. A betel garden or *pan mala* continued to yield from ten to fifteen years. The potato was not grown, apparently because the eastern villages had too small a rainfall and the western villages too much moisture. In the western villages the early harvest was the most important, the chief crops being early *jvari* and *bajri*, supplemented by *tur*, *til*, *nachni*, and wheat. Rice was also grown in a few of the border villages, notably in Rahataunda, Arvi, Marunji, Kasarsai, Mulkhed, and Bhukam. The villagers complained that, owing to the recent transfer of large tracts of hill land to the Forest Department, they had not sufficient brushwood to burn on their rice lands; the Survey Superintendent thought this would seriously interfere with the growth of rice, as cowdung, which the people were forced to use, was too expensive on account of the large city demand for cowdung fuel. The western villages had little garden land, probably because a certain rainfall ensured a regular return on the dry-crop lands. They

also left much land under grass, which, from the plentiful rainfall, grew freely, and found a ready sale. Every day long strings of men and women brought bundles of grass, firewood, cowdung-cakes, and milk to the camp and city. In 1871-72 of the whole rent-paying area early crops covered 52½ per cent, late crops 34 per cent, and occupied waste 13½ per cent. The area of occupied waste held for private grazing was large. Vagholi, Khoradi, Vadgaon, Sheri, Kesnand, and Lohogaon, from their nearness to Poona, had considerable tracts under grass, which probably paid better than if they had been cultivated. [The details were: Of the early crops, *bajri* 34.5 percent, *jvari* 13.5, rice 1.8, *nagli* 0.9, *til and rala* 0.5, *tur* 0.3, chillies 0.3, *hulga* 0.3, and *bhuimug* 0.2, total 52.3 per cent. Of the late crops, *jvari* 26.9, wheat 3.2, gram 1.3, castor seed 0.6, sugarcane 0.6, miscellaneous 16, total 34.2; occupied waste 13 5. Bom. Gov. Sec, CLI. 403.] Except some villages to the north-west of Poona, Haveli was abundantly provided with means of communication. The Peninsula railway ran through the middle of it and had five stations within Haveli limits and a sixth just beyond. The high roads were numerous and good, the chief being those to Bombay, Ahmadnagar, Sholapur, and Satara. To Satara there were three routes, by the Katraj, Babdev, and Diva passes, all made with great skill and in the most substantial manner, the top of the Katraj pass being pierced by a long tunnel. Many miles of excellent made road crossed the Poona cantonment, and connected it with Kirkee and the city. There was also a second class road by Narayangaon to Junnar and Nasik. All these roads converged on the city and afforded easy access from all parts of the sub-division to the vast quantity of supplies required by a population of over 90,000. In the opinion of Mr. Fletcher the classing officer, the people to the west of Poona were poorer and less thriving than those in the east. The holdings were smaller, there was a want of roads, and the land was less fertile. Colonel Waddington thought this might be true of a few exceptional villages. But on the whole the people of the sub-division were better off than the people of any other part of the district. [Lieut.-Colonel Waddington, Survey Superintendent, 840 of 30th November 1872. Bom. Gov. Sel. CLI. 404.] As regards the value of land, as much as one hundred times the amount of the assessment was obtainable in 1871.

Under the revision survey the total area of the eighty-one villages was found to be 204,135 acres or 28,031 acres more than the former recorded area. This large discrepancy was mainly due to the fact that at the time of Lieutenant Nash's survey the area of free grazing lands was not measured. [Of this large increase in area Col. Francis (Survey Comr. 497 of 24th Mafch 1873, Bom. Gov. Sec. CLI. 457) wrote: In no reassessed district has been found the former survey so imperfect as it has been found to be here. This is owing chiefly to the general adoption of Mr. Pringle's measurements at the first settlement in place of a fresh survey. The largest differences of area, compared with the present survey, occur in hilly lands, which in some cases seem to have been left unmeasured, and in others shown as unarable, though producing grass, and most valuable for grazing on account of their nearness to Poona. In one case the arable area, according to the new survey is shown to be more than double what was charged for under the original settlement; in another case it is 90 per cent more, and in many cases it is between 20 and 30 per cent in excess.] Of the total number of eighty-four villages, seventy-four were arranged in eight classes with highest dry-crop acre rates varying from 8s. to 3s. 6d. (Rs.4-1¾). Three villages, Vanori Ghorpuri and Kirkee, adjoining the cantonment were

placed in the first class with a rate of 8s. (Rs. 4). Six villages on the skirts of the city and across the Mutha river were placed in the second class with a rate of 7s. (Rs. 3½). Twenty-six villages adjoining the first and second classes were placed in the third class with a rate of 6s. (Rs. 3). Thirteen villages formed the fourth class with a rate of 5s. 6d. (Rs. 2¾). Nine villages formed the fifth class with a rate of 5s. (Rs. 2½). Five villages formed the sixth class with a rate of 4s. 6d. (Rs. 2¼). Nine villages formed the seventh class with a rate of 4s. (Rs. 2). Three villages, across the Mutha-Mula in the north-east corner of this survey group, formed the eighth class with a rate of 3s. 6d. (Rs. 1¾). Of the remaining ten villages, seven villages transferred to the Maval sub-division were placed in the fifth class with a rate of 5s. (Rs. 2½), and the three villages, of which the existing settlement had been carried out subsequent to that of the rest of the sub-division, were placed one in the third, one in the fourth, and one in the fifth class.

There was little channel watered land, and except in the village of Pashan the water-supply in none of the channels was of superior quality. In Pashan, in consequence of the improvement in the supply of water caused by the recent construction of a large pond, the Survey Superintendent proposed to apply a highest acre rate of 16s. (Rs. 8) in excess of the dry-crop rate. The highest rate in other villages was 11s. (Rs. 5½) and in some lands it was as low as 2s. (Rs. 1). The existing assessment on well-watered and channel-watered land was £470 (Rs. 4700); the proposed channel watered assessment was £223 (Rs. 2230) or an average acre rate of 5s. 3½d. (Rs. 2 as. 10?) exclusive of dry-crop rate. Rice was grown to some extent in the villages on the western border, but the total area under rice was only 1095 acres. Colonel Francis' highest rice acre rate for the contiguous Maval villages was 9s. (Rs. 4½), the average acre rate on them being 4s. 3d. (Rs. 2 as. 2 5/12). For the Haveli group the highest rice acre rate proposed was 12s. (Rs. 6) which when applied gave an average acre rate of 7s. 3½d. (Rs. 3 as. 10?). The effect of the proposed rates in eighty-one villages was to raise the assessment on occupied land from £7686 (Rs. 76,860) collected in 1871-72 to £15,312 (Rs. 1,53,120) or an increase of 99 per cent. Of this sum £14,689 (Rs. 1,46,890) was the assessment on dry-crop land, giving an average acre rate of 2s. 1d. (Rs. 1 a.?), £223 (Rs. 2230) were on account of a water cess, and £400 (Rs. 4000) on rice land. In the remaining three villages the assessment was raised from £361 (Rs. 3610) to £532 (Rs. 5320) or not quite 48 per cent, but the average dry-crop acre rate amounted to 2s. ¾d. (Rs. 1 a. ½) or nearly the same as the general average.

The following statement shows the effect of the survey in eighty-one villages:

Haveli Revision Settlement, 1872.

SETTLEMENT.	OCCUPIED.		UNOCCUPIED.		TOTAL.	
	Area.	Rental.	Area.	Rental.	Area.	Rental.
	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.

Proposed	142,200	1,53,118	344	399	142,544	1,53,517
Existing	122,340	76,862	634	490	122,974	77,352
Increase	19,860	76,256	— 290	— 91	19,570	76,165

Compared with the average collections of the five years before 1841, the rental under the revised rates was 138 per cent higher; compared with the average collections of the eleven years ending 1852 it was 119 percent higher; compared with those of the ten years ending 1862 it was 101 per cent higher; and compared with those of the ten years ending 1872 it was 96 per cent higher. The largest increase was in the village of Bhavdi which was raised 228 per cent. Of this amount the increase in the occupied arable land hitherto not shown in the accounts was 90 per cent. In Dhankauri the increase was 175 per cent and in Vadgaon Sheri 177 per cent. [Lieut.-Col. Waddington, Survey Superintendent, 840 of 30th Nov. 1872. Bom-Gov. Sel. CLL 400-414.]

Should these proposed rates appear too high and the increase in rental be not in accord with the Government policy of moderation, the Survey Superintendent submitted a modified scale to be substituted in their place. He reduced the highest dry-crop acre rates of the first and second classes by 1s. (8 as.) and the remaining classes by 6d. (4 as.) each except in one or two cases in which the reduction made was 1s. (8 as.). The effect of the changes was to lower the proposed assessment on dry-crop land from £15,209 to £13,679 (Rs. 1,52,090-Rs. 1,36,790) and the total assessment from £15,884 to £14,354 (Rs. 1,58,840 - Rs. 1,43,540). This was an increase of 79 per cent on the preceding year's collections in eighty-one villages; of this increase 16 per cent was due to the greater area brought under assessment, leaving 63 per cent as the increase caused by the new rates. The Survey Commissioner suggested a highest rice acre rate of 10s. (Rs. 5) instead of 12s. (Rs. 6), and made some changes in the grouping of villages. According to his proposals the increase in the total rental was reduced to about 75 per cent. Government sanctioned the proposals of the Survey Commissioner. [Gov. Res. 3516 of 20th June 1873. Bom. GOV. Sel. CLI. 465 - 469.]

As the Government of India intimated their satisfaction that the rates originally proposed by the Survey Superintendent had been modified, and expressed their readiness to make further reductions, should reductions appear necessary, the Survey Superintendent made some, further changes in individual villages and brought the total assessment on the cultivated lands of the eighty-four villages to £13,419 (Rs. 1,34,190) showing an increase of 67 per cent on the preceding year's payments. The average dry-crop acre rate was 1s. 9¼d. (14 1/6 as.) channel water rate 4s. 5¼d. (Rs. 2 as. 3 5/12) and rice rate 5s. 11 5/8d. (Rs. 2 as. 15¾). [Lieut-Col. Waddington, Survey Superintendent, 824 of 27th Aug. 1873 and 314 of 18th April 1874. Bom. Gov. Sel. CLI. 471 -473,485.]

The following statement shows for the eighty-four Haveli villages under the revision settlement originally proposed by 'the Superintendent of Survey, the revised settlement advocated in the transmitting report of the Survey Commissioner and sanctioned by Government in June 1873, and the settlement finally proposed by the Survey

Superintendent [Bom. Gov. Sel. CLI. 476.] in September 1873. Government sanctioned the final proposals in October 1873: [Gov. Res. 5495 of 3rd Oct. 1873. Bom. Gov. Sel. CLI. 479.]

Eighty-four Haveli Villages : Settlement, 1873.

Former 1871-72.	Proposed 1872-73.	Increase.
Rs.	Rs.	Per cent.
80,965	1,58,836	96
80,965	1,43,544	77
80,965	1,34,189	66

1873-74.

In 1873-74 the rainfall was 14 inches at Indapur, 32 at Poona, 13 at Junnar, and 68 at Khadkala. Except in Maval, Purandhar, and the late crop part of Indapur, the rainfall was not favourable either for the early or for the late harvest. In the west the early crops were good in Maval and in the south-west and north of Haveli, and fair in Junnar and Khed. In Mulshi insufficient rainfall in the early part of the season, and an excessive fall near the close caused much damage. In the east the early crop was fair in Purandhar, middling in Sirur, and indifferent in Bhimthadi and Indapur where the outturn was very trifling. The late harvest was good in Purandhar, fair in Indapur, and middling in the rest of the east. Public health was generally good. Slight cattle disease was present in MaVal, Junnar, Haveli, and Khed. [Rev. Comr. S. D. 5026 of 29th Dec. 1873.] Tillage rose from 1,848,831 to 1,901,205 acres, collections fell from £112,689 to £99,117 (Rs. 11,26,890-Rs. 9,91,170), £17,796 (Rs. 1,77,960) were remitted, and £9125 (Rs. 91,250) left outstanding. At Indapur the rupee price of Indian millet fell from about 28 to 48 pounds (14- 24 *shers*).

Supa, 1873-74.

In 1873-74 the revised survey settlement was introduced into a group of thirty-nine villages settled in 1843-44. These villages formerly belonged to the Supa petty division of Purandhar. Since the first settlement in 1843-44 thirty of these villages had been handed to Bhimthadi and nine to Purandhar. The country sloped southwards in a waving plain watered by the Karha and other streams none of which flowed throughout the hot weather. In capabilities and climate these villages differed little from each other, except that those lying along the Nira had a larger proportion of deep black soil. The early crops were *bajri*, *math*, and *mug*; the only late crop was *jvari* among which a good deal of *kardai* was sown broadcast. In the northern and eastern villages the late crops, and in the western and southern villages the early crops, predominated. Except in a few villages cultivation was careless. The fields were overrun with weeds; the land was not ploughed

more than once in three or four years; and the use of manure on dry crop lands, except to a limited extent by the folding of sheep, of which great numbers were reared, was apparently unknown. The garden lands, which were almost exclusively under wells, were by no means of a high class. Sugarcane was grown in the few places which had a twelve month's water-supply. The usual garden crops were wheat, gram, vegetables, and *jvari*; of these *jvari* was a special favourite under inferior wells. As regards communication and markets considerable changes had taken place since the former settlement in 1843. At that time, of the four markets which gave Supa an advantage over Indapur and Kurkumb, three, Wai Bhor and Satara, were thirty miles across the country from the nearest part of the group and more than twice as far from the most distant; while the fourth, Sasvad, was not less than twenty miles from the nearest point. By the new roads from the Nira bridge to the railway station at Kedgaon, from Baramati to Patas, and from Satara to Poona by the Diva and Katraj passes, many of these villages had been brought within a day's march of the railway. Poona, which was still as formerly the great market for produce, was more accessible than from Indapur, and not much less accessible than from Kurkumb. The town of Supa itself was only ten miles from the Kedgaon station. The local markets were Baramati, Supa, Patas, and Jejuri, of which Baramati was the most important especially as a cattle market.

During the survey lease the Supa price of *jvari* rose from about 80 pounds (40 *shers*) the rupee in the first ten years to about 84 pounds (17 *shers*) the rupee in the last ten years of the lease that is an increase of 135 per cent. The corresponding increase in the price of *bajri* was from about 68 to 28 pounds (34-14 *shers*) or 143 per cent. [The details are:

Supa Produce Rupee Prices, 1844-1873.

YEAR.	<i>Jvari.</i>	<i>Bajri.</i>	YEAR.	<i>Jvari.</i>	<i>Bajri.</i>	YEAR.	<i>Jvari.</i>	<i>Bajri.</i>
	<i>Shers.</i>	<i>Shers.</i>		<i>Shers.</i>	<i>Shers.</i>		<i>Shers.</i>	<i>Shers.</i>
1844	44.7	36.5	1854	25	23.62	1864	12.12	10.25
1845	25.25	23.25	1855	30.75	28	1865	17.50	11.75
1846	15.62	15.25	1856	22.5	20	1866	13.87	14
1847	35.75	30	1857	28.5	24.25	1867	14	13
1848	60.5	50.25	1858	26	21.1	1868	32	21.5
1849	64	52	1859	38.5	32	1869	13.5	13.5
1850	32	29.5	1860	36	26.5	1870	18.5	15.75
1851	36	29.25	1861	28.5	22	1871	16.5	14.12
1852	39.5	38	1862	19	15	1872	11.5	11
1853	53.5	40	1863	13.5	10	1873	26	20

At the introduction of the 1843 settlement the Supa group was passing from a state of great depression to one of comparative prosperity. This was due to the revision of assessment carried out some years before by Lieutenant Shortrede. Under Lieutenant Shortrede's rates the assessment which had been fixed by the former survey at £12,270 (Rs. 1,22,700) on thirty-seven villages was reduced to £10,140 (Rs. 1,01,400) on 39½ villages. In spite of this reduction the average yearly collections, during the seven years (1836-1842) after the introduction of Lieutenant Shortrede's modified rates, were only £3498 (Rs. 34,950) of a total assessment on Government lands of £8850 (Rs. 88,500) or less than 40 per cent; and, though cultivation spread from 40,696 acres in 1836 to 111,768 acres in 1842, there was a progressive increase in remissions. No less than £5000 (Rs. 50,000) of a total of £7400 (Rs. 74,000) of remissions were allowed during the last two years (1841-42) of the settlement. The fixed survey settlement for thirty years was introduced in 1843, the new rates being the same as in Kurkumb or ten per cent higher than Indapur. During the first year (1843-44) of this thirty years' settlement, of a total assessed area of 141,310 acres, 26,302 arable acres were waste. In the next year the arable waste was reduced to 17,191 acres, in the succeeding year to 14,146, and in 1847 it had fallen to 8690 acres. From this time until 1852 the arable waste gradually increased until in 1852 it amounted to nearly 15,000 acres. The collections varied from £4206 (Rs. 42,060) in 1844-45 to £5310 (Rs. 53,100) in 1847-48 and £5194 (Rs. 51,940) in 1852-53. Large remissions were granted in two of the first ten years, £417 (Rs. 4170) in 1844-45 and £828 (Rs. 8280) in 1850-51. The average collections during the ten years ending 1853 were £4886 (Rs. 48,860) and remissions £171 (Rs. 1710), and the area under tillage was 126,604 acres. Between 1853 and 1858 the arable waste was reduced to 1000 acres; in 1862 it had risen to 1787 acres. The collections in 1862-63 were £5728 (Rs. 57,280). The average area under cultivation was 139,966 acres. During the ten years ending 1873 the arable waste averaged 1843 acres, and the occupied area 142,225 acres, but the collections amounted to £5550 (Rs. 55,500). The fall in average revenue was due to the very large remission allowed in 1866-67, which amounted to £1859 (Rs. 18,590) or one-third of the entire assessment. With this exception the remissions since 1854 were nominal. The following statement gives the average tillage and collections during the survey lease: [The tillage area rose from 115,000 acres in 1843-44 to 133,000 acres in 1847-48 and fell to 123,000 in 1849-50. After 1849-50 it rose to a little over 140,000 in 1857-58 and stood at about 142,000 during the remaining fifteen years. The remissions were about Rs. 5000 in 1844-45, Rs. 8000 in 1850-51, and Rs. 18,000 in 1866-67. In other years there were little or no remissions. The collections rose from Rs. 44,000 in 1843-44 to Rs. 54,000 in 1847-48 and fell to Rs. 44,000 in 1850-51. They then rose to Rs. 56,000 in 1855-56 and stood at about Rs. 57,000 during the next ten years. In 1866-67 they were Rs. 39,000 and again stood at about Rs. 57,000 during the next six years. Survey Diagram. Bom. Gov. Sel. CLI. 514.]

Supa Tillage and Revenue, 1843-1873.

YEAR.	OCCUPIED.	UNOCCUPIED.	TOTAL.	REMISSIONS.	COLLECTIONS.
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	Area.	Rental.	Area.	Rental.	Area.	Rental.		
	Acres.	Rs.		Rs.		Rs.	Rs.	Rs.
1843-1853	126,604	50,564	15,190	6162	141,794	56,726	1707	48,856
1853-1863	139,966	56,498	2825	1212	142,791	57,710	416	56,082
1863-1873	142,225	57,390	1843	612	144,068	58,002	1889	55,500

During the survey lease population increased from 22,795 in 1843 to 32,722 in 1873 or 43.5 per cent; houses from 3804 to 4304 or 13 per cent; wells from 1003 to 1720 or 71 per cent; carts from 191 to 578 or 202 per cent; ploughs from 1110 to 1457 or 31.2 per cent; buffaloes from 1252 to 1654 or 32 per cent; cows from 9946 to 11,649 or 17 per cent; bullocks, draught and plough, from 12,907 to 14,256 or 10.4 per cent; and sheep and goats from 18,934 to 24,663 or 30.3 per cent. Horses showed a fall from 1150 to 844 or 26.6 per cent. Of the new wells 44 were built in the first ten years, 148 in the second ten years, and 225 in the last ten years of the survey lease.

The condition of the people was on the whole good. Few of them were hopelessly involved and every village had some families who were free from debt. At Pandara there were many stacks of straw two years old still undisposed of, though the third year's crop was in the ground and ready to cut. Many of the villages especially the larger ones showed signs of having once been more populous. In numerous instances this apparent fall in the population and ruined appearance of the larger villages was owing to the fact that landholders whose fields lay far from the village site, had built themselves huts and lived there permanently, allowing their village houses to go to ruin. Thus the apparent desolation was in many cases a sign of increased security of life and property.

It was a common practice in this as in other sub-divisions for the cultivators to sell their crops in a lump or *khoti* while still unripe. In 1872 in the Supa group the prices realized varied from 31 times to a little less than 1½ times the new assessment. The highest sum realised was from the poorest field the classification of which was only 1½ annas. The total collections in twenty cases of lump or *khoti* sales were £217 16s. (Rs. 2178) on which the proposed assessment came to £37 (Rs. 370) or about one-sixth. This did not represent the gross produce of the land, since the middle-man must, besides the element of risk, cover the expenses of watching, reaping, and harvesting. [Bom. Gov. Sel. CLL 512.]

Thirty-nine villages were arranged in four classes with highest drycrop acre rates varying from 2s. 9d. to 2s. (Rs. 1 3/8 -1). Two villages close to the road from Satara by the Nira bridge to Poona were placed in the first class and charged a rate of 2s. 9d. (Rs. 1?); twelve villages along the western boundary and on the road to the Kedgaon station were

placed in the second class and charged a rate of 2s. 6d. (Rs. 1¼); twelve villages to the east and south of the preceding class were placed in the third class and charged a rate of 2s. 3d. (Rs. 1½); and thirteen villages in the south-east of this revision survey group were placed in the fourth class and charged a rate of 2 s. (Re. 1). No rice was grown in any of these villages and the channel irrigation was very poor. The proposed highest channel water acre rate was 4s. (Rs. 2). Compared with the preceding year's collections the revised survey rental showed an increase from £5746 to £8171 (Rs.57,460-Rs. 81,710) or 42 per cent. The following statement shows the effect of the survey: [Lt.-Col. Waddington, Surv. Supt. 846 of 5th Sept. 1873. Bom. Gov. Sel. CLI, 507-521.]

Supa Revision Settlement, 1873.

SETTLEMENT.	OCCUPIED.		UNOCCUPIED.		TOTAL.	
	Area.	Rental	Area.	Rental.	Area.	Rental.
	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
Proposed	156,828	81,713	1558	230	158,386	81,943
Existing	142,235	57,461	1830	443	144,065	57,904
Increase	14,593	24,252	-272	-213	14,321	24,039

The Survey Commissioner proposed a few modifications. He removed the first class, and transferred a few villages from the second to the third class, and from the third to the fourth class. Government sanctioned the settlement as modified by the Survey Commissioner. [Gov. Res. 6377 of 22nd Nov. 1873, Bom. Gov. Sel. CLL 552 - 551.]

1874-75.

In 1874-75 the rainfall was 27 inches at Indapur, 38 at Poona, 25 at Junnar, and 92 at Khadkala. The season was on the whole favourable both for early and late crops. In some villages of Haveli, Indapur, Bhimthadi, and Khed the early crops were slightly damaged by excessive rain in September and October. In a few villages of Junnar considerable damage was caused by insects called *naktodaa*. Public health was generally good. Slight cattle disease was present in some sub-divisions. [Rev. Comr. S. D. 4718 of 29th Dec. 1874] Tillage fell from 1,901,205 to 1,884,679 acres, collections rose from £99,117 to £118,333 (Rs.9,91,170-Rs. 11,83,330), £4061 (Rs. 40,610) were remitted, and £720 (Rs. 7200) left outstanding. At Indapur the rupee price of Indian millet fell from about 40 to 60 pounds (24-30 *shers*).

REVISED SETTLEMENT REDUCED, 1874.

About the close of 1874 a fall in the price of grain [Indian millet rupee prices were in Bhimthadi 14½ *shers* in 1868-69, 19½ in 1869-70, 17½ in 1870-71, 12 in 1871-72, 22½

in 1872-73, 30 in 1873-74, 39 in 1874-75, and 36 in 1875-76; in Indapur 15 in 1871-72, 17 in 1872-73, 30 in 1873-74, 46 in 1874-75, and 37 in 1875-76. Collector of Poona, 4376 of 7th June 1884. The Indapur figures here given differ from those given in the statement on page 512.] led Government to set limits to the amounts by which the former rates might be enhanced and to reduce some of the enhanced settlements which had been introduced into Poona. It was right that Government should take advantage of the discovery of land held without payment, should correct mistakes in measuring and in classing, should share with the people the benefits derived from better roads and from the opening of railways, and should receive a share of the profit which the rise in produce prices caused to the landholders. As it no longer seemed probable that the high prices which ruled during the ten years ending 1872 would continue, Government ordered that the increase in revenue in any village group should never be more than thirty-three per cent; that the increase in a single village should never be more than sixty-six per cent, and that the increase in an individual rental should never be more than 100 per cent. To bring the amounts of enhancement, which had been sanctioned in some of the revised portions of Poona, [The details (Bom. Gov. Sel. CLI. 174) are:

Poona Survey Settlements, 1836 - 1866 and 1866 -1874.

SUB-DIVISION.	ORIGINAL SETTLEMENT.				REVISED SETTLEMENT.				INCREASE.
	Arable.	Rental.	Average Acre Rate.		Arable.	Rental.	Average Acre Rate.		
	Acres.	Rs.	A.	P.	Acres.	Bs.	A.	P.	Percent.
Indapur	238,135	81,391	5	5	270,076	124,700	7	4	53
Bhimthadi	190,410	86,464	7	3	212,703	146,596	11	0	69
Haveli	127,610	80,965	10	2	146,745	134,768	14	7	66
Pabal	161,240	102,228	10	1	192,411	152,108	12	7	48
Supa	147,244	69,926	6	6	159,227	78,788	7	11	31

]

into accord with these rules, Government proposed that the necessary changes should be made on the following principles. The highest rates in the group were to be so reduced as to bring the increase in the total revenue of the group within the limits of fifty per cent. When this was done, any case in which the increase in a village was still above 75 per cent, or in an individual holding above 100 per cent, should be reported for orders with distinct recommendations from the survey officers whether further changes were necessary, and if so how they should be made. Government hoped that in groups originally settled after 1848, little or no field operations would be required, and that the revision of the assessment by a mere readjustment of the highest rates would be found to

be sufficient. [Gov. Res. 5739 of 29th October 1874 and 4506 of 10th August 1875, Bom. Gov. Sel- CL. 133-138 and CLI. 174-179.]

In accordance with these instructions in 1875-76 the survey officers made proposals for reducing the revised assessment of Indapur, Bhimthadi, Haveli, Pabal, and Supa. The actual settlements finally sanctioned by Government are given below, showing their percentage increase on the original thirty years' settlements introduced between 1836 and 1844: [Bombay Gov. Sel. CLI. The highest dry-crop acre rates finally sanctioned were Indapur, Rs. 1 $\frac{1}{8}$, Rs. 1 $\frac{7}{8}$; Bhimthadi, Rs. 1 $\frac{5}{8}$, Rs. 1 $\frac{3}{8}$, Rs. 1 $\frac{1}{8}$, Re. 1; Haveli Rs. 3 $\frac{1}{4}$, Rs. 2 $\frac{3}{4}$, Rs. 2 $\frac{1}{2}$, Rs. 2 $\frac{1}{4}$, Rs. 2, Rs. 1 $\frac{3}{4}$, Rs. 1 $\frac{5}{8}$, Rs. 1 $\frac{3}{8}$; Pabal Rs. 2 $\frac{3}{8}$, Rs. 2, Rs. 1 $\frac{3}{4}$, Rs. 1 $\frac{5}{8}$, Rs. 1 $\frac{1}{2}$, Rs. 1 $\frac{3}{8}$; Supa Rs. 1 $\frac{1}{4}$, Rs. 1 $\frac{1}{8}$, Re. 1.]

Poona Revised Survey Settlements Seduced, 1876.

SUB-DIVISION.	VILLAGES.	SETTLEMENTS 1836-1844.	REDUCED REVISION SETTLEMENTS, 1876-76.			
		Amount.	Amount.	Increase over 1836- 44.	Average Dry-crop Acre Rate.	
			Rs.	Per Cent.	As.	p.
Indapur	78	81,184	1,11,866	38	6	8
Bhimthadi	48	74,222	1,03,982	40	8	9
Haveli	83	80,965	1,13,773	41	11	10
Pabal	59	1,02,228	1,39,479	36	11	2
Supa	39	57,461	72,303	26	--	--

1875-76.

In 1875-76 the rainfall was 21 inches at Indapur, 38 at Poona, 34 at Junnar, and 116 at Khadkala, a full supply, but, as the falls were ill-timed, the season was unfavourable. An excessive fall, when the early crops were still young, did so much damage that many tracts had to be resown. In a few villages of Haveli and Sirur the crops were slightly injured by locusts. The rice in Maval suffered from early floods and later from want of rain. The outturn of the early crops was not more than ten-sixteenths to twelve-sixteenths; in many places it was much less. In the eastern or late crop parts the rainfall was short, and the crops were far below the average. In Indapur, Bhimthadi, and south Sirur *jvari* withered for want of rain, and in many places did not grow more than eighteen inches high. The late harvest was less than a half crop and the outturn of cotton was not more than a fourth. The district suffered from a severe outbreak of cholera which began in the hot weather and continued until October (1875). More than 4000 seizures were fatal.

About 1000 head of cattle died from disease. [Rev. Comr. S. D. 3876 of 31st Dec. 1875.] Tillage fell from 1,884,679 to 1,875,669 acres and collections from £118,333 to £112,673 (Rs. 11,83,330-Rs. 11,26,730), £3480 (Rs. 34,800) were remitted, and £703 (Rs. 7030) left outstanding. At Indapur the rupee price of Indian millet rose from about 60 to 56 pounds (30 - 28 *shers*).

1876-77.

In 1876-77 the rainfall was 5 inches at Indapur, 15 at Poona, 17 at Junnar, and 77 at Khadkala. In the east 1876-77 was a year of famine. The rainfall was very scanty and the crops failed. The Maval rice suffered considerably. In the west of Junnar Khed and Haveli the early crops were fair perhaps six to seven-sixteenths. In the east of these subdivisions and in Indapur and Bhimthadi, except in watered land no early crops were grown. Late crops were sown in parts of Maval, Haveli, Sirur, and Purandhar, but none were sown in Indapur or in Bhimthadi. All over the district the late harvest was an almost complete failure. Great distress prevailed and relief works had to be provided. [A summary of the 1876-77 famine details is given under Agriculture Chap. IV.] Public health on the whole was good. Cholera appeared in some parts and caused 651 deaths. Cattle disease prevailed slightly. In the east many cattle died of starvation and thousands were driven to the west for grazing. [Rev. Comr. S. D. 945 of 27th Feb. 1877.] Tillage fell from 1,875,669 to 1,864,475 acres and collections from £112,673 to £70,321 (Rs. 11,26,730-Rs. 7,03,210), £174 (Rs. 1740) were remitted, and £45,683 (Rs. 4,56,830) left outstanding. At Indapur the rupee price of Indian millet rose from about 56 to 38 pounds (28-19 *shers*).

1877-78.

In 1877-78 the rainfall was 28 inches at Indapur, 20 at Poona, 17 at Junnar, and 51 at Khadkala. In the east and south-east a long break damaged the early crops but in the west the early harvest was above the average. The late crops were much injured by blight and in some places towards the east they entirely failed. Fever was very prevalent, and there were 3196 deaths from cholera. [Bom. Pres. Genl. Adm. Rep. for 1877-78, 76-78.] Tillage rose from 1,864,475 to 1,868,193 acres and collections from £70,321 to £110,148 (Rs. 7,03,210 - Rs. 11,01,480), £135 (Rs. 1350) were remitted, and £6866 (Rs. 68,660) left outstanding. At Indapur the rupee price of Indian millet rose from about 38 to 18 pounds (19- 9 *shers*).

1878-79.

In 1878-79 the rainfall was 29 inches at Indapur, 33 at Poona, 39 at Junnar, and 73 at Khadkala. In the west the early crops were good; in the east they were almost destroyed by untimely rain and to some extent by locusts. In the west the late harvest was an average one; in the east it was almost destroyed by rats. Numbers of the poorer husbandmen took work on the Nira Canal. Public health was generally good. [Bom. Pres. Genl. Adm. Rep. for 1878-79, 78-79.] Tillage fell from 1,868,193 to 1,861,631 acres and collections from £110,148 to £104,030 (Rs. 11,01,480-Rs. 10,40,300), £25 (Rs. 250) were

remitted, and £10,864 (Rs.1,08,640) left outstanding. At Indapur the rupee price of Indian millet fell from about 18 to 20 pounds (9 -10 *shers*).

REVISION SURVEY. Purandhar, 1879.

In 1878-79 revised assessments were introduced into thirty-five Government and one reversionary or *dumdla* village, and survey rates were for the first time introduced into four reversionary or *dumala* villages in Purandhar. Most of these villages had belonged to the Sasvad mamlatdar's division of Purandhar which was settled in 1847. Of the thirty-five Government villages the revised settlement was proposed for a group of seventeen villages in April 1878 and for a group of eighteen Government villages in February 1879. [Purandhar formerly included two divisions, the *subha* or mamlatdar's charge with the head-quarters at Sasvad and the *peta* or mahalkari's charge with the headquarters at Supa. The Supa group which was settled in 1844 included fifty-nine villages, forty-five Government and fourteen alienated. The Sasvad group which was settled in 1847 included seventy villages, thirty-two Government and thirty-eight alienated. In 1861-62 the office of mahalkari was abolished and the villages of his division were included within the limits of the mamlatdar's division. In the following year 1862-63 eight villages were transferred from the adjoining sub-division of Haveli and finally in 1866-67 forty-five villages, thirty-seven Government and eight alienated were made over to the Bhimthadi sub-division. These changes left for Purandhar in April 1878 ninety-two villages, sixty-seven Government and twenty-five alienated.] The Purandhar sub-division was bounded on the north and north-east by Haveli and Bhimthadi which were separated from Purandhar by the Bhuleshvar range which rose about 1000 feet from the plain. Purandhar was bounded on the east by Bhimthadi, on the south by the river Nira which separated Poona from Satara, and on the west by the Pant Sachiv's territory and a portion of Haveli. The rainfall in the Purandhar sub-division varied from 14.62 inches in 1872-73 to 31.26 inches in 1874-75 and averaged 20.24 inches. [The details are:

Purandhar Rainfall, 1871 -1877.

YEAR.	Purandhar.	Pitas.	Baramati	Haveli.
	Inches.	Inches.	Inches.	Inches.
1871-72	17.77	12.60	12.30	19.88
1872-73	14.62	19.10	20.77	20.20
1873-74	17.77	14.18	10.17	26.80
1874-75	31.26	25.84	26.31	37.75
1875-76	22.50	12.28	9.61	37.43
1876-77	17.54	6.0	7.54	14.90
Average	20.24	15.0	14.45	26.16

The husbandry in Purandhar did not differ from that in the neighbouring sub-divisions except that the land was oftener ploughed, the light soils yearly and the heavier black soils once in two years. The landholders showed more energy in the cultivation of their fields. The sub-divisions of land property, as a rule, were minute and its market value was high. Manure was applied to the drycrop soils only when the farmer found he had it to spare. Watered lands when made ready for sugarcane generally got as much as fifty cartloads the acre, while twenty to thirty cart loads the acre sufficed for ordinary garden crops. The manure consisted of the usual farm-yard refuse or sheep droppings. In most of the first group of nineteen villages, seventeen Government and two alienated, it was customary to raise a second crop of grain after *bajri* or other *kharif* crops had been cleared. According to Mr. Whitcombe the classing assistant who reported on these nineteen villages, the sugar manufactured in this sub-division was much prized for its firmness which enabled it to stand travelling. It fetched about 4s. (Rs. 2) the *palla* of 120 *shers* more than the *jagri* manufactured elsewhere. The Purandhar sugarcane had the peculiarity of being kept eighteen months on the ground. The people said that by keeping it so much longer the sugar-making power of the juice was greatly increased. The cane was planted in May or June and cut in November or December of the following year. The early crops were 51.5 per cent and the late crops, including 14 per cent of fallow land, were 48.5 per cent. The chief crop was *bajri* 48 per cent and the next was *jvari* 27.2 per cent. [The 1875-76 details for seventeen Government and one alienated village were: Early or *kharif*, *bajri* 48, per cent, rice one per cent, *mathi* 0.4, *hulga* 0.3, *udid* 0.1, and miscellaneous 1.7, total 51.5. Late or *rabi*, *jvari* 27.2, wheat 2, sugarcane 1.1, gram 0.7, miscellaneous 3.5, waste or fallow 14, total 48.5.]

During the term of the survey lease road communications had been greatly improved. In 1847 the Poona-Satara road by the Bapdev pass was the only made road. This pass was very steep and little used by carts. Pack bullocks brought most of the surplus produce to the Poona market. In 1878 the Bapdev pass road was used by local carts as a means of communication from the villages near it to the chief market town of Sasvad. Here the road joined the comparatively new road to Poona over the Diva pass. From Sasvad numerous roads branched, one to Jejuri where it was joined by the main road from the Diva pass. Half-way from the Bapdev pass on the road to Sasvad branched off another road to the fort of Purandhar, but since the completion of the Diva pass road this was not much used. Another road fairly metalled but not bridged, left Sasvad to the south-west, and, after passing through the Safgir pass, joined the main road from Poona to Satara by the Katraj pass. The Katraj pass road, after passing through the lands of some of the south-western villages of Purandhar, crossed the Nira river not far from the market town of Kikvi. Another unbridged made road left Sasvad on the south and crossed the Pimpla pass close to the village of Parincha and thus on to the river Nira not far from the village of Tondla. Another road practicable for carts left the main road from the Diva pass, close to the village of Belsar, and crossed the Bor pass to the Urali railway station. Besides these metalled roads, during the 1876-77 famine three other fair weather roads were laid out as relief works. One of them joins Sasvad with Supa, and the other two start from Jejuri and pass east. Where thirty years before there was only one made road, in 1878

there were numerous lines of communication affording every facility for the conveyance of surplus produce to the different large markets the chief of which was Poona. The chief manufactures were cotton cloth or *lugdis*, blankets or *kamblis*, and bangles. One hundred looms were devoted to the weaving of *lugdis* and twenty-one to the making of *kamblis*. The best of both were taken to the Poona market where they found a ready sale. The prices for *lugdis* ranged from 5s. to £1 (Rs. 24-10), and the highest price that the best class of *kamblis* fetched was 6s. (Rs. 3). At the village of Mandar coarse glass bangles were made costing about 6d. (4 as.) the hundred. The local markets were at Sasvad, Vala, Parincha, and Kikvi. Except Sasvad they were of no great importance. Almost the whole of the surplus field produce went to Poona.

During the thirty years ending 1877 the Sasvad produce prices had risen from an average of 85 pounds of *jvari* the rupee during the ten years ending 1857 to 42 pounds during the ten years ending 1867 or 102 per cent. The average for the next ten years (1867-1877) 44 pounds showed a fall of 5 per cent compared with the ten years ending 1867 and a rise of 93 per cent compared with the ten years ending 1857. The corresponding figures for *bajri* were 70 pound's in the ten years ending 1857, 36 in the ten years ending 1867, and 86 in the ten years ending 1877; for wheat 58 pounds, 29 pounds, and 27 pounds; for gram 61 pounds, 28 pounds, and 29 pounds; and for rice 36 pounds, 20 pounds, and 20 pounds. Thus, as regards the three chief grains *jvari* *bajri* and wheat, the landholder was nearly 100 per cent better off in the last ten than in the first ten years of the 1847 settlement. Compared with those of the second ten years (1857-1867) the average prices during the last ten years (1867-1877) showed a slight fall. But the high average of the ten years ending 1867 was chiefly owing to the extreme clearness of grain between 1861 and 1866. In 1862 the price was higher even than in the 1877 famine. Compared with the ten years before the 1847 settlement the average waste acres in fifteen Government villages during the ten years ending 1857 showed a fall from 2046 to 1148, in the next ten years to 373, and in the last ten years ending 1877 to 214 acres. Average remissions fell from £230 (Rs. 2300) in the ten years before the settlement to £8 (Es. 80) in the first ten years and to 4s. (Rs. 2) in the second ten years. In the last ten years there were no remissions. The occupied acres of Government and alienated land rose from 19,834 in the ten years ending 1847 to 40,209 in the ten years ending 1857, [Col. Laughton has shown that the apparently doubling of the area held for tillage during the first ten years is partly due to the conversion of *bighas* into acres at the rate of $\frac{3}{4}$ ths of an acre equal to one *biyha*,] to 41,225 acres in the ten years ending 1867, and to 41,420 acres in the ten years ending 1877. The average collections on these lands did not show much rise, the amounts being £1792 (Rs. 17,920) during the ten years (1837-1847) before the settlement, £1693 (Rs. 16,930) during the first ten years, £1813 (Rs. 18,130) during the second ten years (1857-1867), and £1839 (Rs. 18,390) in the last ten years ending 1877. The following tabular statement gives the results:

Purandhar Tillage and Revenue, 1837-1877.

YEAR.	Government Villages.	Tillage.	Waste.	Remissions.	Outstandings.	Collections.
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		Acres.	Acres.	Rs.	Rs.	Rs.
1837-1847	15	19,834	2046	2300	--	17,924
1847-1857	15	40,209	1148	81	352	16,932
1857-1867	15	41,225	373	2	1	18,130
1867-1877	15	41,420	214	--	521	18,390

According to Colonel Laughton there was a gradual and steady rise in collections until 1874 when the receipts reached within £1 2s. (Rs. 11) of the total survey rental. During the thirty years' lease in the fifteen Government villages settled in 1847-48, population increased from 15,482 in 1847-48 to 18,895 in 1876-77 or 22 per cent, and the density to the square mile from 184 to 224; flat roofed and tiled houses increased from 2239 to 2680 or 19.7 per cent and thatched houses from 259 to 298 or 15.1 per cent; ploughs from 555 to 757 or 36.4 per cent; and carts from 60 to 315 or 425 per cent. The value of land was very high. Though the information cannot be considered more than a rough indication of the true value it is worthy of note that in fifteen mortgages sums ranging from eight to 420 times and in seven sales sums ranging from seven to 389 times the yearly land assessment were realized. [Col. Laughton shows that these returns may mislead because the sums entered as paid may include the accumulated interest of years of outstanding accounts.] Subletting was common but nowhere for cash payments. It was chiefly on the *ardhali* that is half-share plan, by which the holder who paid the Government assessment exacted half of, the produce from the tenant; and supplied half of the seed, and, in the case of garden land, half of the cost of ropes and of manure. Under the revision survey the seventeen Government villages were arranged in four classes with highest dry-crop acre rates of 3s. 6d., 3s. 3d., 3s., and 2s. 9d (Rs. 1¾, 1?, 1½, and 1?). The effect of the proposed settlement was an increase of 45.7 per cent and a rise in the average acre rate from 1s. ¼d. to 1s. 5? d. (8-11¹¹/₁₂ as.). The details are :

Purandhar Proposed Settlement, 1878.

CLASS.	GOVERN- MENT VILLAGES.	GOVERNMENT OCCUPIED LAND.					HIGHEST DRY CROP ACRE RATE.	
		Former Survey.		Revision Survey.				
		Area.	Rental.	Area.	Rental.	In crease.		
		Acres.	Rs.	Acres.	Rs.	Percent	Rs.	a.
I.	1	3613	3267	3560	6715	75.5	1	12
II.	2	1701	1586	1686	2168	36.7	1	10

III.	10	23,252	10,633	23,510	15,188	42.8	1	8
IV.	4	8023	3257	8001	4216	29.4	1	6
Total	17	36,589	18,733	36,757	27,287	45.7	--	--

The Government unoccupied waste was 133 acres assessed at £2 18s. (Rs. 29) or an average acre rate of $5\frac{1}{4}d.$ ($3\frac{1}{2} as.$). [Col. Loughton, Survey Supt. 324 of 9th April 1878.] Government ordered that the proposed rates might be adopted with such modifications as the Survey Commissioner might think necessary, reporting them for the sanction of Government. [Gov. Res. 2969 of 11th June 1878; and Col. Anderson, Surv. Comr. 406 of 4th May 1878.] The details of the settlement finally sanctioned are: [Cel. Laughton, Surv. Supt. 119 of 1st Feb. 1879; Col. Anderson, Surv. Comr, 370 of 2nd April 1879; and Gov. Res. 2159 of 23rd April 1879.]

Purandhar Revision Settlement, 1879.

CLASS.	GOVERN- MENT VILLAGES.	DRY CROP LAND.								
		Former.	Revision Survey.							
		Rental.	Proposed.				Sanctioned.			
			Rental.	Increase.	Highest Acre Rates.		Rental.	Increase.	Highest Acre Rates.	
		Rs.	Rs.	Per Cent	Rs.	a.	Rs.	Per Cent	Rs.	a.
I.	1	8257	4840	48.6	1	12	5114	57.0	2	0
II.	2	1586	1963	23.8	1	10	2067	30.3	1	14
III.	9	11,244	13,718	22.0	1	8	14,320	27.4	1	10
	1				1	6				
IV.	1	1273	1382	8.6	1	8	1446	13.6	1	8
	1				1	6				
V.	2	1373	1785	30.0	1	6	1721	25.8	1	6
Total	17	18,733	23,688	26.5			24,668	31.7		

The proposed dry-crop rental was increased by £98 (Rs. 980) or 4.14 per cent. The proposed water cess was increased from 15s. to 16s. (Rs. $7\frac{1}{2}$ - 8) and the total rental from

£590 to £625 (Rs. 5900-6250), that is a rise of £35 (Rs. 350) or 5.9 per cent. Taking dry-crop and water rates together the proposed rental was increased by 4½ per cent. Compared with the former survey the sanctioned revision showed an increase of 52.8 per cent.

The lands of the second group of eighteen Government villages were close to or mixed with the lasds of the first group. In climate, husbandry, productions, communications, markets, and manufactures there was no difference. The early crops were 446 per cent of which *bajri* was 34.3 per cent; and the late crops, including 8.2 per cent of waste or fallow, were 55.4 per cent of which 43 per cent were *jvari*. There were ten looms, one for cotton cloth and nine for blankets. During the thirty-one years of the settlement the area of arable waste fell from 5238 in the ten years ending 1847, to 1293 in the ten years ending 1857, to 404 in the ten years ending 1867, to 176 in the ten years ending 1877, and to 4 in 1877-78. During the ten years before the settlement (1837-1847) remissions amounted to £464 (Rs. 4640) which were reduced to £7 (Rs. 70) in the next ten years. Tillage rose from 20,029 acres in the ten years ending 1847 to 41,550 in the ten years ending 1877, and collections from £1816 (Rs. 18,160) in the first ten years of the settlement (1847-1857) to £1961 (Rs. 19,610) in the ten years ending 1877. The details are:

Purandhar Tillage and Revenue, 1837-1878.

YEAR.	Government Villages.	Tillage Area. (a)	Waste.	Remissions.	Out-stand-ings.	Collections.
		Acres.	Acres.	Rs.	Rs.	Rs.
1837-1847	18	20,029	5238	4636	1380	20,525
1847-1857	18	39,926	1293	67	278	18,158
1857-1867	18	41,238	404	1	5	19,273
1867-1877	18	41,550	176	--	999	19,609
1877-78	18	41,612	4	--	22	19,595

(a) Much faith cannot be placed in the return of area before the introduction of the revenue survey. The record of area was always kept in *bighai*, which has been turned into acres at ¾ths of an acre to the *bigha*. This is not correct, for the *bigha* varied according to the nature of the soil. Probably in the best black soil the assumed proportion was fair

enough. In the poor or *barad* soils the *bigha* represented three or more acres. - Colonel Laughton, Feb. 1879.

During the first settlement lease population increased from 9451 in 1847-48 to 11,617 in 1877-78 or 229 per cent; flat roofed and tiled houses from 1219 to 1441 or 18.2 per cent; carts from 105 to 232 or 121 per cent; and watering wells from 201 to 275 or 36.8 per cent. Thatched houses decreased from 326 to 250 or 23.3 per cent; farm cattle from 4828 to 3878 or 19.7 per cent; and ploughs from 615 to 505 or 17.9 per cent. Under the revision survey these eighteen Government villages were arranged into six classes with highest dry-crop acre rates varying from 5s. 6d. to 2s. 9d. (Rs. 2¾ -1?). The effect of the proposed settlement was an increase of 34.3 per cent exclusive of water cess or 39 per cent inclusive of water-cess. The average acre rate rose from 1s. ¼d. (8¹/6 as.) to 1s. 4¾d. (11¹/6 as.). The considerations which justified the increase were the improvement in communications, in the price of food grains, and in the value of land. There were only fifty-two acres of rice in which a highest acre rate of 16s. (Rs. 8) was proposed, and the actual highest acre rate was 6s. (Rs. 3) and the lowest 10½d. (7 as.). The average acre rate amounted to 4s. 5¾d. (Rs. 2 as. 3⁷/12); all new rice land was assessed at simple dry-crop rates. Garden land was found in every village and amounted to a total of 1435 acres. For the channel-watered portion of this land a highest acre rate of 16s. (Rs. 8), combining soil and water, was proposed. The details of the proposed settlement are:

Purandhar Revision Settlement, 1879.

CLASS.	GOVERN- MENT VILLAGES.	GOVERNMENT OCCUPIED LAND.						
		Former Survey.			Revision Survey.			
		Area.	Rental.	Area.	Rental.	Increase.	Highest Dry Crop Acre Rates.	
		Acres.	Rs.	Acres.	Rs.	Per Cent.	Rs.	a.
I.	3	4375	2812	4406	4481	59.4	2	12
II.	3	1844	1125	1930	1693	50.5	2	0
III.	2	5721	3003	5908	4716	57.0	1	14
IV.	1	242	124	245	127	2.4	1	12
V.	1	1387	869	1481	1128	29.8	1	8
VI.	8	22,906	10,553	22,930	13,486	27.8	1	6
Total	18	96,475	18,486	36,900	25,631	39.0		--

Ten acres of Government arable waste were assessed at 4s. (Rs. 2) or an average acre rate of $4\frac{3}{4}d.$ ($3\frac{1}{6}$ as.). [Colonel Laughton, Surv. Supt. 119 of 1st Feb. 1879.] The proposed settlement was sanctioned in April 1879 with an intimation that the new rates should not be levied till the next year. [Res. 2159 of 23rd April 1879.]

1879-80.

In 1870-80 the rainfall was 21 inches at Indapur, 34 at Poona, 36 at Junnar, and 57 at Khadkala, but the falls were untimely. The rice and other early crops were damaged by drought and by rats, and the outturn was middling. From the ravages of rats and from want of moisture, the late crop was only partial and the outturn poor. Government sanctioned a payment of 2s. (Re. 1) for every 100 rats killed and over 350,000 were destroyed. Public health was generally good, except a violent outbreak of cholera in Poona city which caused over 500 deaths. [Bom. Pres. Genl. Adm. Rep. for 1879-80, 79-81.] Tillage fell from 1,861,631 to 1,775,553 acres, collections rose from £104,030 to £110,776 (Rs. 10,40,300-Rs. 11,07,760), £397 (Rs. 3970) were remitted, and £2445 (Rs. 24,450) left outstanding. At Indapur the rupee price of Indian millet rose from about 20 to 18 pounds (10-9 *shers*).

SURVEY RESULTS, 1836-1880.

As many territorial changes took place after the first revenue survey was begun in 1836, to show the results of the survey settlements in the villages of the present (1884) Poona district, special returns were prepared by the survey department in 1880-81. [Mr. R B. Pitt, Asst. Supt. of Survey, 21st July 1881.] These returns show that the survey settlement has been introduced into $992\frac{1}{4}$ Government and $160\frac{3}{4}$ alienated villages of the present Poona district which contains $996\frac{1}{4}$ Government and $204\frac{3}{4}$ alienated villages. Between 1867 when the survey leases of the different groups began to fall in, up to 1880 when the special returns were prepared, revised settlements had been introduced into $376\frac{1}{4}$ Government and seven alienated villages. [Of the 1153 villages into which survey rates were introduced, complete details were not available for thirty-eight Government and forty-seven alienated villages. The rate of the progress of the survey was as shown below. In 1836-37, 29 Government villages were settled; in 1837-38, 47; in 1838-39, 26; in 1839-40, 36; in 1840-41, 7; in 1841-42, 70; in 1842-43, 39; in 1843-44, 51; in 1844-45, 1; in 1845-46, 2; in 1846-47, $3\frac{1}{2}$; in 1847-48, 54; in 1848-49, 23; in 1849-50, 5; in 1850-51, 112; in 1851-52, 87; in 1852-53, 133; in 1853-54, 199; in 1854-55, 4; in 1856-57, 32; in 1857-58, 1; in 1858-59, 7; in 1863-64, 5; in 1864-65, 10; in 1868-69, 3; in 1869-70, $\frac{3}{4}$; in 1873-74, 3; in 1874-75, 2; total Government villages $992\frac{1}{4}$. In 1837-38 one alienated village was settled; in 1841-42, 3; in 1842-43, 1; in 1846-47, $\frac{1}{2}$; in 1847-48, 1; in 1848-49, 1; in 1852-53, 2; in 1853-54, 2; in 1854-55, 9; in 1856-57, 6; in 1857-58, 2; in 1858-59, 2; in 1860-61, 1; in 1861-62, 2; in 1863-64, 11; in 1864-65, 48; in 1865-66, 1; in 1868-69, 34; in 1869-70, $10\frac{1}{4}$; in 1870-71, 2; in 1871-72, 3; in 1875-76, 12; in 1878-79, 2; in 1879-80, 4; total alienated villages, $160\frac{3}{4}$; total Government and alienated villages 1153. The revised survey settlement was introduced in 1867-68 in 76 Government villages; in 1871-72 in 53; in 1873-74 in $179\frac{1}{4}$; in 1874-75 in $1\frac{1}{2}$; in 1875-76 in 6; in 1878-79 in $9\frac{1}{2}$; in 1879-80 in 51; total Government villages $376\frac{1}{4}$. The revised survey settlement was

introduced in seven alienated villages, one in 1867-68, one in 1871-72, two in 1873-74, half in 1874-75, half in 1878-79, and two in 1879-80.]

The returns for 954¼ Government villages, for which complete details were available, show that, compared with the average of the ten years before the survey, the average for the whole period during which the survey settlement was in force shows a fall in waste from 526,857 to 141,623 acres or 73 per cent and in remissions from £25,717 to £2012 (Rs. 2,57,170-Rs. 20,120) or 92 per cent, and an increase in occupied land [Government and alienated occupied land in Government villages. The fall in waste is 385,234 acres while the increase in occupied area is 722,612 acres. "The discrepancy is due to imperfect measurements in former years.] from 1,071,585 to 1,794,197 acres or 67.43 per cent, and in collections from £75,592 to £91,586 (Rs. 7,55,920-Rs. 9,15,860) or 21 per cent. Compared with the ten years before the survey, the figures for 1879-80 show a fall in waste from 526,857 to 159,583 acres or 69.7 per cent, and in remissions from £25,717 to £393 (Rs. 2,57,170-Rs.3930) or 98.47 per cent, and an increase in occupied land from 1,071,585 to 1,855,765 acres or 73.18 per cent; and in collections from £75,592 to £102,415 (Rs. 7,55,920-Rs. 10,24,150) or 35.48 per cent. The returns for 113¾ surveyed alienated villages, for which complete details were available, show that, compared with the ten years before the survey, the average for the whole survey period shows a fall in waste from 21,590 to 7382 acres or 65.8 per cent and in remissions from £5630 to £245 (Rs. 56,300 - Rs. 2450) or 95.6 per cent; and an increase in occupied land from 200,727 to 276,114 acres or 37.5 per cent, and in collections from £14,498 to £17,614 (Rs. 1,44,980-Rs. 1,76,140) or 21.49 per cent. Compared with the ten years before the survey the figures for 1879-80 show a fall in waste from 21,590 to 6029 acres or 72 per cent and in remissions from £5630 to £11 (Rs. 56,300 - Rs. 110) or 9980 per cent, and an increase in occupied land from 200,727 to 277,607 acres or 38.30 per cent, and in collections from £14,498 to £17,614 (Rs.1,44,980-Rs. 1,76,140) or 21.49 per cent. The following statement shows for the Government and the alienated or *inam* villages of each sub-division the chief changes in tillage area, remissions, collections, and outstandings, since the introduction of the revenue survey: [In this statement before Survey means the average of the ten years before the revenue survey settlement, and Survey means the average of the whole period during which the original and revised revenue survey rates were in force.]

Poona Survey Results, 1836-1880.

Sub-Division.	YEAR.	ASSESSED.		REMIS-SIONS.	COLLECTIONS.			OUT- STAND- INGS.
		Occupied.	Waste.		Assessed.	Un- arable.	Total.	
<i>Government Villages.</i>		Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
Maval	Before	48,272	41,271	1644	46,038	2958	48,996	974

	Survey							
	Survey	105,809	17,935	773	59,037	2342	61,379	252
	1879-80	115,073	12,533	--	62,643	790	63,433	--
Junnar	Before Survey.	143,561	44,829	23,199	1,35,354	2050	1,37,404	13,473
	Survey	208,353	17,809	951	1,36,110	2997	1,39,107	641
	1879-80	218,221	14,282	7	1,43,030	480	1,43,510	--
Sirur	Before Survey.	149,927	74,768	35,364	80,148	1468	81,616	5047
	Survey	224,014	14,925	2316	1,08,853	1646	1,10,499	5108
	1879-80	237,252	6405	10	1,27,084	178	1,27,262	--
Khed	Before Survey.	118,298	54,698	22,664	1,30,695	5109	1,35,804	2755
	Survey	259,676	27,616	1997	1,35,540	8203	1,43,743	204
	1879-80	278,651	8257	--	1,48,649	1085	1,49,734	3
Purandhar	Before Survey.	72,504	18,660	32,037	64,727	2923	67,650	4246
	Survey	144,513	1500	165	63,548	8461	67,009	1102
	1879-80	142,716	4152	660	78,875	1042	79,917	1424
Indapur	Before Survey	139,481	73,817	60,456	60,662	2275	62,937	5615
	Survey	226,084	9202	3256	79,483	1335	80,818	7013
	1879-80	191,699	63,022	1119	79,341	5112	84,453	12,676
Bhimthadi	Before Survey.	220,850	161,25 ₂	57,086	1,03,545	3093	1,06,638	10,970
	Survey	413,228	39,006	7073	1,72,124	3661	1,75,785	16,943
	1879-80	426,582	47,355	704	2,08,379	11,04 ₂	2,19,421	1905
Haveli	Before	123,692	57,562	24,716	1,08,673	6206	1,14,879	72

	Survey.							
	Survey	212,520	13,631	3590	1,29,655	7869	1,37,524	70
	1879-80	245,571	3577	1435	1,55,448	971	1,56,419	--
Total	Before Survey	1,071,585	526,857	2,57,166	7,29,842	26,082	7,55,924	43,152
	Survey	1,794,197	141,623	20,121	8,84,350	31,614	9,15,864	31,828
	1879-80	1,855,765	159,583	3935	10,03,449	20,700	10,24,149	16,008
<i>Inam Villages.</i>								
Maval	Before Survey.	449	321	71	665	3	668	--
	Survey	661	97	2	900	8	908	4
	1879-80	753	--	--	977	21	998	--
Junnar	Before Survey.	9225	1466	2609	4829	102	4931	247
	Survey	16,541	1314	128	6126	28	6154	145
	1879-80	16,725	930	23	6146	--	6146	--
Sirur	Before Survey.	38,725	10,561	6789	20,058	328	20,386	864
	Survey	52,224	1635	216	27,644	322	27,966	2926
	1879-80	52,006	1849	--	27,922	75	27,997	2019
Khed	Before Survey.	18,141	775	13,299	25,772	3375	29,147	3574
	Survey	41,206	773	816	29,459	3235	32,694	2186
	1879-80	41,515	1039	56	30,378	2787	33,165	2318
Purandhar	Before Survey	33,243	1750	5404	26,054	1506	27,560	2892
	Survey	52,778	801	41	29,154	1345	30,499	3758

	1879-80	53,074	567	9	29,917	878	30,795	4210
Indapur	Before Survey	4653	--	177	2576	43	2619	4
	Survey	6349	11	331	2854	48	2902	541
	1879-80	6316	44	--	3180	10	3190	2600
Bhimthadi	Before Survey	20,835	992	7442	12,799	893	13,692	2363
	Survey	35,493	579	580	17,530	950	18,480	4206
	1879-80	36,128	1	--	17,959	896	18,855	2716
Haveli	Before Survey	75,456	5725	20,512	40,357	5621	45,978	65
	Survey	70,862	2172	339	50,781	5752	56,533	1
	1879-80	71,090	1599	24	51,362	3636	54,998	--
Total	Before Survey	200,727	21,590	56,303	1,33,110	11,871	1,44,981	10,009
	Survey	276,114	7382	2453	1,64,448	11,688	1,76,136	13,767
	1879-80	277,607	6029	112	1,67,841	8303	1,76,144	13,863

1880-81.

In 1880-81 the rainfall was 18 inches at Indapur, 20 at Poona, 18 at Junnar, and 36 at Khadkala. On the whole the rainfall was considerably below the average; but except in the western subdivisions and in north and west Purandhar, the early crops were fair. A seasonable fall in September caused a good late harvest everywhere except in Sirur. The scanty rainfall occasioned a drought during the hot weather in parts of the district. Public health was generally good, but cholera prevailed to a slight extent in Haveli, Purandhar, and Maval, causing 461 deaths. [Bom. Pres. Genl. Adm. Rep, for 1880-81, 85-87.] Tillage rose from 1,775,553 to 1,777,153 acres and collections from £110,776 to £112,790 (Rs. 11,07,760 - Rs. 11,27,900), £133 (Rs. 1330) were remitted, and £1231 (Rs. 12,310) left outstanding. At Indapur the rupee price of Indian millet fell from about 18 to 28 pounds (9-14 *shers*).

1881-82.

In 1881-82 the rainfall was 25 inches at Indapur, 25 at Poona, 22 at Junnar, 58 at Khadkala, and 26.52 over the whole district. In June the rainfall was short in the west and good in the east where the sowing of the early or *kharif* crops was begun. In July the fall was abundant especially in the centre and east, and sowing was general. In a few Junnar and Khed villages the early or *kharif* crops were slightly injured by insects which the people called nose-cutters or *naktodas*. Over the whole district the outturn was about a three-quarters crop (12 *as.*). The late or *rabi* crops were seven-eighths (14 *as.*) of a full crop in Indapur, and three-fourths (12 *as.*) in Bhimthadi, Purandhar, and Sirur. Grass and water were plentiful in Indapur, but want of water was felt in Bhimthadi, Haveli, Junnar, and part of Purandhar. The Indapur cotton was about a three-quarters (12 *as.*) crop. Tillage rose from 1,777,153 to 1,786,064 acres and collections from £112,790 to £115,069 (Rs. 11,27,900-Rs. 11,50,690), £339 (Rs.8390) were remitted, and £282 (Rs. 2820) left outstanding. At Indapur the rupee price of Indian millet fell from about 28 to 50 pounds (14-25 *shers*).

1882-83.

In 1882-83 the rainfall was 27.82 inches at Indapur, 36.23 at Poona, 33.99 at Junnar, 80.27 at Khadkala, and 35.93 over the whole district. The early rains were good and general. In Haveli, including the Mulshi petty division, excessive rain at the burst of the monsoon destroyed some dams and washed away rice-seed. In the rest of the west the early harvest was good; in the east the early harvest was fair, about a three-eighths (6 *as.*) crop. The late harvest was nearly ruined but was saved by a heavy fall late in November, and yielded from a five-eighths to a seven-eighths (10-14 *as.*) crop. Except in Indapur and Bhimthadi, from the end of September, locusts destroyed from a sixth to a quarter of the crop. The damage was most serious in the western Mavals where the *nachni*, *vari*, and other hill grains suffered severely. Tillage fell from 1,786,064 to 1,775,583 acres and collections from £115,069 to £103,672 (Rs. 11,50,690-Rs. 10,36,720), £10,865 (Rs. 1,08,650) were remitted, and £966 (Rs. 9660) left outstanding. At Indapur the rupee price of Indian millet fell from about 50 to 62 pounds (25-31 *shers*).

1883-84.

In 1883-84 the rainfall was 37.48 inches at Indapur, 47.42 at Poona, 37.58 at Junnar, 73.14 at Khadkala, and 40.91 over the whole district. The fall was abundant except in Khed, Khadkala, and the petty divisions of Mulshi and Ambegaon. In the plain or *desh* villages of Junnar a heavy and timely rainfall favoured the early or *kharif* crops. They were slightly injured by excessive damp in September and October, and the *bajri* was tinged red. The outturn was about a three-fourths (12 *as.*) crop. In Bhimthadi and Indapur the late harvest suffered from excessive rain in October and did not yield more than a half (8 *as.*) crop. Except in Indapur locusts were everywhere in the district but did little harm. [Details regarding locusts are given above under Agriculture Chap. IV.] At Indapur the rupee price of Indian millet fell from about 62 to 64 pounds (31-32 *shers*).

[REVENUE STATISTICS, 1837-1884.](#)

The following statement [Grain prices were supplied by the Collector, 1011 of 8th Feb. 1884.] shows the available yearly statistics of rainfall, prices, tillage, and land revenue during the forty-seven years ending 1883-84:

Poona Tillage and Revenue, 1837-1884.

YEAR.	GOVERN-MENT VILLAGES.	RAINFALL		MILLET Shers THE Rupee.				TILLAGE.
		Inda- pur.	Jun- nar.	Indapur.		Junnar.		
				Jvari	Bajri.	Jvari	Bajri	
		Inches						Acres.
1837-38.	882	--	--	36	44	--	--	--
1838-39.	882	--	--	67	30	--	--	--
1839-40.	882	--	--	44	30	--	--	895,438
1840-41.	883	--	--	64	44	--	--	947,840
1841-42.	889	--	--	56	40	--	--	982,600
1842-43.	892½	--	--	68	42	--	--	1,000,881
1843-44.	900½	--	--	72	44	57	51	1,055,282
1844-45.	933	--	--	60	36	45	46	1,063,127
1845-46.	938	--	--	36	25	32	30	1,102,088
1846-47.	937	--	--	15	13	31	30½	1,148,755
1847-48.	939	--	--	48	32	58	57½	1,228,304
1848-49.	940	--	--	72	56	87	88	1,227,898

1849-50.	940	--	--	72	56½	66½	69½	1,196,719
1850-51.	937	--	--	38	34	44	32	1,215,015
1851-52.	942	--	--	40	32	45	43	1,273,394
1852-53.	942	--	--	56	40	55	53	1,316,767
1853-54.	941	--	--	56	36	51	48	1,368,430
1854-55.	947	--	--	29	26	38½	30	1,395,080
1855-56.	970	--	--	32	29	35½	35	1,447,006
1856-57.	973	--	--	32	28	40½	35	1,534,473
1857-58.	981	--	--	39	37	41½	34	1,566,231
1858-59.	982	--	--	32	28	39	37	1,598,885
1859-60.	983	--	--	39	31	41½	42	1,654,399
1860-61.	983	--	--	33	23	40	33½	1,664,802
1861-62.	988	23	35	27	19	36	29	1,691,352
1862-63.	989	12	10	16	16	21	17	1,696,097
1863-64.	990	3	17	13	12	16	12	1,720,335
1864-65.	988	10	15	16	14	20	16½	1,736,582
1865-66.	988	6	20	18	15	21	19	1,743,179
1866-67.	986½	5	24	23	21	24	19	1,784,390
1867-	981½	20	26	41	32	24	18	1,803,708

68.								
1868-69.	992½	8	25	35	27	24	20	1,814,896
1869-70.	992½	26	25	29	22	21	18	1,819,237
1870-71.	993½	24	30	25	19	21	18	1,831,953
1871-72.	992½	15	27	30	24	20½	17	1,842,868
1872-73.	992½	26	15	14	10	23	20	1,848,831
1873-74.	991¾	14	13	24	17	29½	24½	1,901,205
1874-75.	990¾	27	25	30	22	36½	30	1,884,679
1875-76.	990¾	21	34	28	21	34	24	1,875,669
1876-77.	989¾	5	17	19	15	12	10½	1,864,475
1877-78.	991	28	17	9	9	10½	9	1,868,193
1878-79.	992	29	39	10	9	10	9½	1,861,631
1879-80.	994	21	36	9	9	12	11	1,775,553
1880-81.	995	18	18	14	12	23	17	1,777,153
1881-82.	995¾	25	22	25	19	29½	20¼	1,786,064
1882-83.	998	28	34	31	23	27½	21	1,775,583
1883-84.	--	37	37	32	23	22	17	--

continued..

YEAR.	LAND REVENUE.			
	Remitted.	For Collection	Outstand-ing.	Collected
	Rs.	Rs.	Ra.	Rs.
1837-38.	72,410	6,81,869	45,745	6,36,124
1838-39.	1,86,263	5,67,319	19,204	5,48,115
1839-40.	1,06,399	6,75,910	4944	6,70,966
1840-41.	99,262	7,00,295	17,503	6,82,792
1841-42.	1,20,314	6,67,369	24,408	6,42,961
1842-43.	26,837	7,79,215	9635	7,69,580
1843-44.	42,917	7,48,920	4498	7,44,422
1844-45.	92,395	7,22,720	33,321	6,89,399
1845-46.	1,05,947	7,16,820	27,983	6,88,837
1846-47.	19,283	8,38,079	22,473	8,15,606
1847-48.	24,622	8,25,627	7176	8,18,451
1848-49.	40,610	7,87,193	11,838	7,75,355
1849-50.	31,483	7,73,188	10,759	7,62,429
1850-51.	51,961	7,34,492	4168	7,30,324
1851-52.	28,362	8,07,881	3258	8,04,628
1852-53.	7278	8,01,173	452	8,00,721
1853-54.	82,942	7,27,260	2498	7,24,762
1854-55.	6123	8,16 107	244	8,14,863
1855-56.	10,320	8,54,705	413	8,54,292
1856-57.	16,489	8,79,633	351	8,79,282
1857-58.	2907	9,19,798	607	9,19,191
1858-59.	2427	9,33,139	93	9,33,046
1859-60.	364	9,56,644	13	9,56,631
1860-61.	238	9,66,230	47	9,66,183
1861-62.	4	10,02,623	3297	9,99,326
1862-63.	422	9,97,414	423	9,96,991

1863-64.	1467	10,23,171	34,378	9,88,793
1864-65.	228	10,21,771	15,357	10,06,414
1865-66.	128	10 67,770	12,557	10,55,213
1866-67.	80,038	10,09,062	71,766	9,37,296
1867-68.	44,325	11,17,101	1011	11,16,090
1868-69.	48,592	11,56,213	429	11,55,784
1869-70.	4786	12,01,745	269	12,01,476
1870-71.	4756	11,13,031	2553	11,11,378
1871-72.	57,779	10,91,870	1,24,497	9,67,373
1872-73.	5468	11,72,415	45,521	11,26,894
1873-74.	1,77,957	10,82,430	91,255	9,91,175
1874-75.	40,615	11,90,531	7203	11,83,328
1875-76.	34,805	11,33,761	7032	11,26,729
1876-77.	1736	11,60,041	4,66,828	7,03,213
1877-78.	1349	11,70,134	68,657	11,01,477
1878-79.	250	11,48,949	1,08,644	10,40,305
1879-80.	3970	11,32,209	24,446	11,07,763
1880-81.	1334	11,40,214	12,309	11,27,905
1881-82.	3392	11,53,509	2822	11,50,687
1882-83.	1,08,651	10,46,882	9664	10,36,718
1883-84.	--	--	--	--

AGRICULTURAL BANKS, 1884.

The object [Mr. Moore, C. S. Collector of Poona, 1884.] of the promoters of the agricultural bank scheme is to form an association of local moneylenders and others who will advance money at a comparatively low rate of interest not to exceed twelve per cent to landholders, who, though hampered by debt, are not insolvent. It is proposed that as a preliminary, an experienced covenanted revenue officer be appointed to inquire into the condition of the landholders of the Purandhar sub-division. All who are hopelessly insolvent will be put on one side and with such the bank will have no dealings. As regards others, the special officer will endeavour to effect a compromise with the creditors for the settlement of old debts. If he can succeed in coming to terms with the creditors, they will be paid in money down from the Government treasury in satisfaction of all claims, and the debts will form a rent charge on the lands of the debtors, second to

the Government assessment. The instalments are to be fixed at a reasonable amount including interest at nine per cent, with a sinking fund of three per cent to extinguish the original debt. The rent charge, it is suggested, should be taken over by the bank, who would repay Government the amount advanced to meet old debts and would make loans to agriculturists for improvements, for cattle, and for seed; provided the security is sufficient, and provided that Government consent to such loans forming a lien on the crop to be recoverable as arrears of land revenue. The loans would be made on mortgages executed by the agriculturists receiving them and the money advanced would not exceed 60 per cent of the full value of the security. It is believed that the scheme is being delayed owing to doubts on the part of the Government of India of the wisdom of recovering loans made by the bank as arrears of land revenue.